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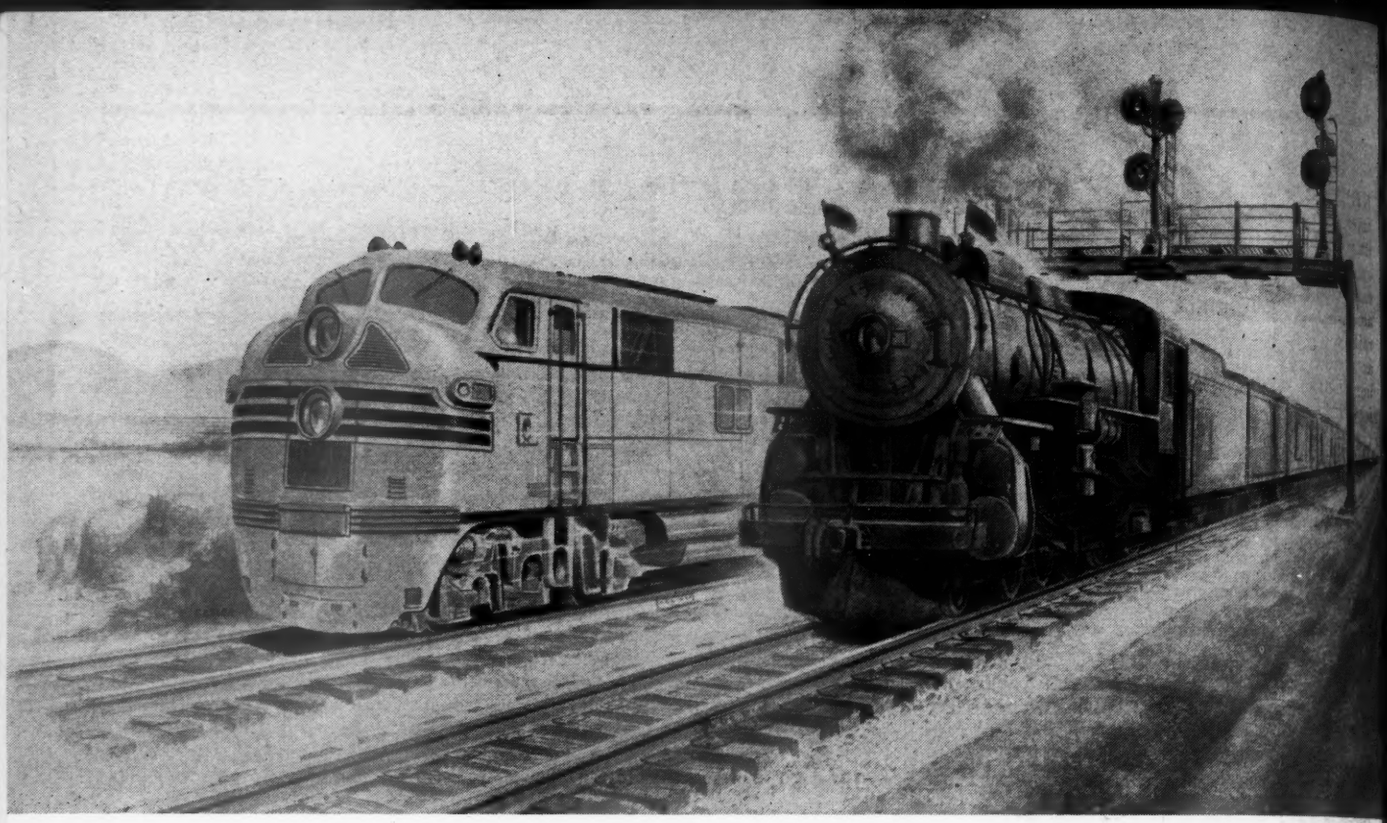

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The Week at a Glance

NEEDED: $2 BILLION: When the Interstate Commerce Commission resumes its consideration next week of the railroads' application for authority to increase freight rates to offset skyrocketing costs it will have an amended proposition before it, as the railroads, having bigger payrolls to meet as a result of wage increases to the operating brotherhoods, are endeavoring to effect rate advances averaging 30 per cent (in which the interim emergency increase now applicable would be included) rather than the 27 per cent asked earlier. The method of application to the different territories and to commodities not covered by the blanket adjustment is set forth in one of the articles in this issue. The total amount by which this 30 per cent rate increase would raise annual railroad revenues is about $2 billion—a lot of money (even in Washington, D. C.) but only the railroad industry's share of the cost of inflation and "third round" wage hikes.

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WHY WHEELS SLIDE: One of the papers presented at last fall's Air Brake Association's meeting in Chicago was by the New York Central's L. D. Hays; it is the basis of one of the articles in this issue (page 50). As background for the practical application of devices to control wheel sliding it was convenient to review the reasons why wheel-rail adhesion at times may be too low for effective braking and to formulate the principles on which train brakes operate. On these premises the problems encountered in tests of slide-control apparatus are analyzed.

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FREEDOM FROM FIRE: One of our illustrated articles describes the special installation of semi-automatic carbon dioxide fire-extinguishing equipment devised to assure the safety en route of the valuable documents making up the exhibits in the "Freedom Train."

●

FELTON LOOKS AHEAD: The Car Institute's president is quite sure that the railroads and the car building industry can really achieve something worthwhile in the way of improvement to existing freight car standards. As reported in the news columns, such progress might take the form, he suggests, of a better car at present (relative) prices, a more costly but even more efficient car, or a cheaper and designedly less durable car.

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CROSSER LAW CRITICS: When railroad employees decide they do not like the Crosser "bigger benefits" law because, as they appraise it, they pay more, in proportion to the returns received, than employees in other industries under Social Security, they find it difficult to publicize their views or to advocate modification of that onerous statute. An article in this issue (page 62) calls attention to some of these difficulties, and throws fresh light on the extremes to which union heads appear to be going to prevent the bulk of the brotherhoods' membership from learning what those objecting to this Latimer-planned legislation consider sound and sensible reasons for their objections. The first reaction of a union "leader" to any challenge of the sanctity of the Crosser Law is, it seems, the automatic chirp, "railroad stooge," applied indiscriminately to one and all voicing that challenge.

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A BASIC DEFECT: The system that determines how much net earnings the American railroads can make—and so determines their success in meeting the national demand for good and adequate transportation—is fatally defective. It is defective, our leading editorial observes, because it fails to provide a means whereby the railroads can earn a fair return on a reasonable valuation of their properties. For a third of a century, in good times and bad, it has prevented them from showing sufficient earnings, and it will, if continued, always prevent them from earning a fair and adequate return. Their need, and the national need, for average yearly profits of 6 per cent are currently being emphasized, but mere recognition of the need will not produce the earnings. The means must be provided by which such earnings can be attained. The first step in the development of such means is the recognition of the ruinously defective character of the present system restricting earnings to depression levels in a period of peak business volume.

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LOCKS A LIABILITY: The St. Lawrence ditch advocates aren't getting all the help from the Army that possibly they had hoped for, in the light of the military record as to "waterway" undertakings at the taxpayers' expense. Right at the time when the proponents of this plan for bringing the sea to Superior (largely at the expense of the railroads) were playing the national defense tune most insistently here comes along the general in charge of the Panama Canal to say that that thoroughfare is so vulnerable to enemy attack that in the interest of the national defense a couple of billion of taxpayers' money ought to be spent on it to do away with all the locks—to make it a sea-level ditch, in other words. Not even the U. S. Treasury can make a sea-level channel out of the even more vulnerable St. Lawrence seaway, so what becomes of the national defense argument? A fuller treatment of this challenge appears in the news pages.

●

FEELING THE PUBLIC PULSE: Ways exist now, of course, to measure quite accurately the trend of public opinion about the railroads, and about many phases of railroad operation and performance. The railroads are not strangers to these polling techniques. It is becoming possible now also to gage the development of public opinion while that development is going on, the article on page 65 explains. The method which our contributor uses to do this—in brief, it is by scientific analysis of newspaper comment about the railroads (and about their competitors, too, where it is pertinent)—yields a sensitive appraisal of developments in public opinion—and affords it quickly, he finds.

FUNERAL ARRANGEMENTS: When the British government on next January 1 takes over ownership and management of that country's railroads (and other land transportation) the identity of all of the individual properties will be lost. Instead of the Great Western, the L. M. S., and so on, all railroad operations will be performed by the "British Railways," the system of which, for operating convenience, will be divided into six regions. The "functional" (i.e., departmental) officers in each region, however, will report to and be directed by a politically appointed officer in the central bureaucracy set up to manage the whole enterprise. The complexity of the state-controlled transportation organization by which the British Labor government expects to demonstrate the inefficiency of the private enterprise system is suggested by the diagram on page 54 herein, a part of a comprehensive article by G. Lloyd Wilson in which are summarized the means and methods concocted by the Socialists to bring to an end the operation in that country's transportation industry of individual and corporate freedom and initiative and competitive drive.

●

WOOD TREATMENT UP: The total quantity of wood given preservative treatment in 1946 was substantially above 1945, but there was a decrease in most categories of timber except poles. The decline was slight in the treatment of crossties but quite substantial in switch ties. A summary of these yearly statistics appears this week on page 58.

●

GETTING AT COSTS: The old saw about proving anything with figures can be applied to the data available on costs of locomotive operation, because their use can be grossly misleading if it is not guided by appropriate allowances for the various elements that enter into the conditions producing the figures. One of our editorials comments on this situation, raising several questions with respect to the validity of conclusions that may be drawn from specific data if adequate weighted interpretations of those data are not first undertaken. One dangerous pitfall that can be—but perhaps is not invariably—avoided is the comparison of figures, especially of percentages, that are not basically comparable. The importance is obvious of using the right data in the right way if true economy is to be attained in the purchase and utilization of modern motive power.

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IN THE WEEK'S NEWS: The Railway Express Agency has proposed another rate increase, 10 per cent over the current basis. . . . The C. & O. will spend $350,000 to install train-to-anywhere phone service. . . . Equipment orders reported in this paper in November totaled some $80 million. . . . In September a quarter of a million death and retirement benefit payments were made by the Retirement Board. . . . This week's Diesel orders include 30 for the Burlington, 38 for the Milwaukee, 22 for the North Western, and 20 for the Baltimore & Ohio.

Old Man Winter doesn't stand a ghost of a chance where General Motors Diesels operate. For these reliable locomotives perform with the same high efficiency in December as they do in May.

On the Great Northern mainline between St. Paul and Seattle, temperature runs the gamut from 100 degrees in summer to 50 below in winter, the quickest and sharpest range of climatic conditions in all America. Terrain varies from the North Dakota plains to an elevation of 5,213 feet at the Continental Divide.

The record for dependability of General Motors Diesels in this rugged service is one in which the locomotive builder and the railroad can both take justifiable pride. Five GM Diesel high-speed passenger locomotives which pull the Empire Builder, show an average availability of 98.6% while amassing a total of 2,463,040 miles.

So uniform is their efficiency, winter and summer, that there is only half a percentage point difference in the availability average for any of the locomotives in their fleet. Each of the five has averaged over 22,000 miles a month for more than two years.

Such actual records, in all kinds of service, distinguish General Motors Diesels. Such actual records point up the extra value inherent in these locomotives, designed and built by specialists in America's best-equipped plant devoted 100% to the manufacture of Diesel motive power.

GM LOCOMOTIVES

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS LA GRANGE, ILL.

RAILWAY AGE

A System That Always Fails

It has been plain ever since before World War I that the *system* which determines how much net earnings the railway industry can make, under honest and efficient management, is radically defective. Because this has been made plainer than ever during the two years since World War II, a movement has been started by spokesmen of the railways to educate the public and government authorities to a realization that the railways need to earn an average annual return of 6 per cent on a reasonable valuation of their properties.

To prove the desirability of attaining an objective is one thing. To adopt or secure adoption of the *means* by which it can be attained is an entirely different thing. A fair and needed average annual return will never be earned under a *system* which is not adapted to causing and allowing it to be earned. And the repeated serious troubles of the railways for more than a third of a century have been due to a *system* which never has so worked as to produce the results for which it has been intended.

What the System Has Done

The Interstate Commerce Act as amended in 1906 and 1910 directed the Interstate Commerce Commission to so adjust rates as to make them non-discriminatory and *reasonable*. By "reasonable" was obviously meant rates which as a whole would yield enough earnings to pay operating expenses, taxes and a return sufficient to raise needed capital. The *system* first broke down completely when, in December, 1917, the Commission threw up its hands and declared it was not created to fix rates to deal with such an emergency as was then presented by advancing operating costs. In less than a month this abdication by the Commission was followed by government operation.

In framing the Transportation Act of 1920 Congress tried to improve the system. It expressly directed the Commission to so fix rates as to enable the railways, as a whole, under honest, economical and efficient management, to earn a "fair return on a fair valuation." The Commission in 1922 held this would be 5¾ per cent. But the system, after being thus theoretically improved, worked no better than before. The railways never even in the prosperous Twenties earned the required return. In the Thirties many of them became actually bankrupt and many others virtually bankrupt. In some of the recent war years they made record net earnings. But in two postwar years of great prosperity, with a record peacetime traffic, causing a chronic and unbroken shortage of freight service, they have under the system supposed to provide them with proportionate net earnings, made only depression net earnings.

The First Step to Improvement

In short, the system almost never has worked well, and has broken down in every instance within a third of a century in which it has been subjected to unusual strains. It is apparently incapable of making adjustments fast enough to the swift and extreme changes that occur on the railways due to the swift and extreme changes characteristic of the American economy. Our other great industries adjust quickly to the economic changes. They advance wages one day and prices the next. Because of its inability to make such adjustments, the railway industry suffers more than other industries in depression and is denied anything approaching a fair return when, as during the last two years, other industries are making record profits. This is a good system only for bankrupting railways, causing shortages of transportation in both peace and war and finally destroying private enterprise in transportation.

The Interstate Commerce Commission has been criticized for many years for its failure to help the railways adjust to changes in conditions. The criticism has been almost futile, as is demonstrated by everything

the Commission has done in rate cases within the last two years, excepting in recently authorizing promptly a 10 per cent interim advance in freight rates. The trouble is that the Commission is merely part of a system which is fatally defective and always fails. What is wrong with the system? What changes in it are required to make it work? These questions demand the best thought of the railroad industry and of everybody who is concerned about the future of the American economy. The major premise with which everybody must start who is to think rationally about the nation's present transportation problem is that the system now used for providing good and adequate transportation is fatally defective. Advocate a 6 per cent return for the railways? Certainly. But recognize the fact that a system under which the railways have constantly failed in good times and bad for more than a third of a century to earn an adequate and fair return will, if it is continued, always prevent them from earning an adequate and fair return and must be replaced by something much better. Full recognition of this fact must precede really constructive consideration of the system by which the present ruinously defective system should be replaced.

Fighting Snow Storms Takes on New Aspects

As winter strikes early and viciously in many parts of the country, some maintenance-of-way officers, in spite of experience of earlier years and with full knowledge of the current lean labor market and high labor costs, are far from as well prepared to cope with coming storms as they could be.

This situation cannot be lightly dismissed as "their own funeral." True, if a hard winter should lie ahead, most of the extra burden will fall on them and their forces, but, at the same time, many other railroad men besides the track maintenance forces are going to suffer if it turns out that the maintenance officers have gambled and lost. Providing the greatest assurance that the tracks will be kept open during winter storms is or should be the concern of every operating department officer and of management. With the present high level of traffic, the shortage of cars, the scarcity of labor, and present high wages, that concern should be deeper than ever.

The most effective means of coping with severe winter storms have often been neglected because of the cost. There has been a willingness to gamble that the expense might be avoided without serious consequences. For a long time the old theory of brute force in bucking heavy snows has prevailed. All plans, no matter what else they involved, have always called for large gangs of men recruited from local labor markets. The expense might be high in the event of heavy storms, it has been reasoned, but no storms, no expense. In any event, whatever the expense, it could be written off as "unavoidable."

This theory is being discarded, fortunately. High wage rates and the scarcity of labor are making the gamble too great. Recent years have seen more snow-fighting equipment on the railways than ever before. Supplementing this, many roads have been carrying out large programs of right-of-way grading and cut widening to eliminiate snow pockets, which yearly have been the cause of extensive snow-removal operations, train delays and large expense. Some of these projects have been so effective as to do away with the need for many miles of snow fences and other winter attention.

One of the greatest boons to snow fighting has come about in the various types of snow-melting switch heaters for use in yards and terminals and at busy interlockings. Yet, men were seen clearing switches with brooms on at least two roads during the recent Thanksgiving week snowfalls in the Midwest. Modern equipment to take care of this chore is quite evidently not being used as widely as it could be to save expensive labor.

How to Recruit the Right Kind of Employees

A letter has come to our attention which contains the following statement: "Recently the principal of a school came to visit our shop. After chatting with him a while we got off on apprentices and apprentice training. I took time to show him the course we were giving apprentices, explained the routine of shop work they were being put through, and took him into the shop to observe the apprentices on the job. I wanted his reaction and got it—'Say, you couldn't use a couple of likely chaps in this set-up, could you?' Today two of his former students are carman apprentices and doing nicely as such, as the result of that contact."

Wise and far-seeing railroad division and local officers have recognized the importance of cultivating high school principals in their localities. This is not a simple task, especially in the larger cities, and then, too, such officers are so busy with other pressing activities that unless particularly appreciative of the importance of so doing, they neglect this responsibility —and opportunity!

A division superintendent of a midwestern railroad many years ago prided himself on knowing personally, and keeping in touch with, school superintendents and high school principals in all communities within 25 miles of the line over his division. It is not surprising that he got the pick of the students from these schools for the various departments on the division—nor that he was widely known and respected for his success in attracting capable young men to the railroad service.

The above-mentioned letter included another paragraph that carries its own significant message: "In transportation you find a deplorable situation. Any 'hombre' is hired with the idea that he is good enough for a freight brakeman, flagman, etc. Promotion and seniority finally make a passenger conductor out of him, in which position he is as much out of place as an 'Eskimo in Panama.' He cannot meet the public, he has no tact, and kills business instead of encouraging it. The poorest passenger train, properly manned with the right kind of personnel, will increase business."

How Much Are Cost Data Really Worth?

It will be no comfort to the compilers of statistics on the costs of locomotive operation to suggest that the more such figures we have the less we seem to know about the actual facts. The principal objective of such figures is to serve as a guide in the determination of future motive-power policies and in the actual selection of motive-power types—with at least some degree of confidence that a sound course is being followed. With this as the objective, what is the actual value of the cost data at our command?

Before trying to answer this question it seems appropriate to venture the opinion that locomotive operating costs, of themselves, are of minor importance—the major consideration is the work performed by the locomotive unit. It is entirely possible to have a low locomotive-mile operating cost, for example, and an extremely unfavorable cost of locomotive operation per thousand gross ton-miles—for the reason that poor utilization may have reduced both the gross ton-miles hauled and, because of low locomotive-mileage, the cost of operation on a locomotive-mile basis as well.

If this reasoning is sound, costs can be judged as really favorable only when they represent a low cost for performing a large unit of work. Low locomotive-mile cost, of itself, is of value mainly for the purpose of comparing one period with another.

This approach leads naturally to a discussion of the relative operating costs of steam and Diesel power. When truly modern units of both types of locomotive are used for comparison the available data are beginning to indicate that, mile for mile, one can be operated about as economically as the other—the Diesel having a definite advantage in the matter of hauling capacity, availability for service and relative freedom from the necessity of roadside service and maintenance facilities.

So much for relative cost figures. Let's consider locomotive operation costs as such. It is becoming apparent that cost figures, to be significant, must be related to specific conditions of operation. Therefore, segregation should be made by types of power and class of service. In passenger service the train-mile basis seems the most logical; in freight service, the gross ton-mile basis; and, in switching service, switching locomotive-hours. These three bases preclude comparison of costs of one class of service with the others. If this approach is sound, what do some of the recent data show? They show that repair costs of steam power, over the past ten years, have increased almost 100 per cent; and that similar costs for Diesel power, over the past 5 to 9 years, have increased about 160 per cent. In the study from which these figures were taken, the average age of the steam power units was 25 years and of the Diesel units 4 years.

This is a good example of the fallacy of percentages as an indicator, because, if the steam power had been 4 years old and the Diesel power 25 years old, the chances are that the percentages might have been reversed. Are we not safe, then, in assuming that, with any locomotive, the increase in repair cost on a percentage basis will probably be greater from the first to the fifth year than it will from the twenty-first to the twenty-fifth year?

Locomotive repair costs increase with age, but the percentage increase from the beginning to the end of any given part of the life of the locomotive depends upon whether that part is early or late in the life history of the unit.

This discussion is presented in the hope that it may encourage critical scrutiny of motive power operating data. So many factors affect the figures that, unless all of them are given appropriate weight in interpreting the data, erroneous conclusions will surely be drawn. The addition of new figures to the record only adds to confusion of thought, in the absence of adequate emphasis on critical interpretation.

The Strength and the Weakness of the American Economy

"The first major characteristic of our economy is its dynamic productiveness. . . . We have perfected the techniques of mass production, streamlined distribution, and modernized our merchandising. We have seen the income of the average American family doubled, and, for the second time in a generation, the dynamism and high productivity of American industry have proved a decisive factor in winning a world war. The second major characteristic of our economy, and this has been its greatest weakness, is its instability. During the past 100 years there have been no less than 26 business depressions, culminating in the boom of the Twenties and the bust of the Thirties. . . .

"Instability in our economy results from instability in effective market demand. But the answer as to why market demand is unstable is not simple. It is very complex indeed. . . . At any given time, market demand depends upon (1) how much cash or credit is available to customers, businessmen and the government, and (2) how much of that cash or the proceeds of that credit they are willing to spend for goods or invest in business assets. . . .

"The availability of cash and credit, and the confidence in the future which produces willingness to spend or invest, essential as these are, are not all that is needed. . . .Unless businessmen are in a position freely to start new enterprises or to expand the output of existing business, and unless workers are able to shift freely to new jobs, increased market demand for goods may give us inflation, rather than increased employment.

"It is against the background of these various factors that we must develop a program to moderate economic fluctuations. The program, of course, must recognize the necessity of maintaining adequate purchasing power. Also it must take into full account the importance of giving individuals confidence in the continuity of their incomes, of giving businessmen confidence in the prospects for continued profitable operations, and of creating the conditions of competitive opportunity which will channel market demand into more production rather than into higher prices. While we are seeking for measures to minimize the instability of our economic system and thus correct its weaknesses, we must constantly keep in mind that its strength lies in its natural lusty vitality. That we must not lose. Otherwise, we may end up with a stabilized poverty so characteristic of the tired, regimented, old-world economies."

—Paul G. Hoffman, chairman of the Committee for Economic Development.

How Wheels Behave on Low-Adhesion Rail

Various rail conditions which lead to wheel sliding—Six principles of performance of brake shoes on wheels—Adhesion on new rail much lower than that on old rail*

By L. D. HAYS

Air Brake Engineer, New York Central System

FOR many years, the practice in this country has been to design passenger-car brake rigging for maximum braking ratios of 90 and 150 per cent for full-service and emergency brake applications. Experience indicated that excessive wheel sliding occurred when the ratios of 90 and 150 per cent were exceeded.

Experiment has demonstrated that the coefficient of adhesion between a motionless wheel and the rail is about 32 per cent at the point of contact. While the wheel is in motion, the adhesion coefficient will become less and under ordinary dry-rail conditions will vary from 17 to 25 per cent. With these adhesion values, passenger cars can be satisfactorily braked, utilizing braking ratios up to 150 per cent without sliding of wheels except for the last few feet of a stop.

However, there are times when the wheel-rail adhesion is considerably less than 17 to 25 per cent and, as a result of heavy braking on such rail, the wheels are often flattened to the extent that it becomes necessary to remove them from service.

Causes of Wheel Sliding

The most common causes for slippery rail are frost, dew, a drizzling rain, leaves on the rail, a light dust mixed with moisture, insects, and newly laid rail. Sometimes even fertilizer drifts onto the rail when the farmers are plowing the fields. Intermittent spots of oil and grease, particularly at rail joints and switch points and on station platforms, do not help the cause along. These elements cause the coefficient of adhesion between the rail and wheel to fall as low as 5 to 7 per cent. This means that when braking on such low-adhesion rails, the wheels may slide at low speeds whenever a braking ratio of from 35 to 40 per cent is exceeded. In the words of the engineman, it would mean that wheels may slide whenever a brake-pipe reduction of more than 10 to 12 lb. is made on such rail without using sand to restore the adhesion to the higher values.

There are also two contributing factors which are present even during braking on dry rail. These are known as transfer of weight and intermittent wheel-and-rail contact.

A transfer of weight takes place from the rear to the front pair of wheels on a four-wheel passenger-car truck as a train stops with the brakes heavily applied. The front of the truck frame noses down while the rear of the frame appears to rise. This nosing of the truck creates a transfer of weight from the rear to the front axle of the truck. In addition, there is a transfer of weight from the rear truck to the front truck of the car. Mathematical calculations indicate the axle loads of a passenger car having four-wheel trucks and elasp brakes will change to approximately the following typical values when an emergency brake application is made while the car is in motion:

	Per cent of static load
On front axle	115
On second axle	88
On third axle	112
On fourth axle	85

Unfortunately, with the rolling car wheel, the wheel-and-rail contact pressure is of a variable and intermittent character. A casual glance along the surface of the track will disclose more or less undulating various in it, the magnitude of which will depend largely on the character of maintenance and weather conditions. During cold weather, contraction of rails increases the joint spacing, and frost causes additional unevenness in the rail surfaces so that an emergency or even a heavy service brake application at high speed will often cause injurious wheel sliding.

While the wheel is subject to intermittent contact and non-contact at the rail, the rotative energy of the wheels helps to keep them revolving. At 60 m.p.h., the rotative energy will be approximately 200,000 ft.-lb. per pair of wheels. This, however, is not enough to prevent the wheels from sliding on low-adhesion rails when the condition of intermittent wheel-rail contact pressure combines with the transfer of weight and permits the brake-shoe pull to exceed the rail pull. These conditions account for occasions when only one or two pairs of wheels will develop flat spots even though all wheels under the car are subject to very nearly the same shoe pressure.

The area of contact between a 36-in. steel wheel and 127-lb. rail has been found to vary from 0.4 to 0.6 sq. in., which is an area about the size of a penny. The area of contact will depend upon the contours of the wheel tread and the ball of the rail, and the amount the rail bends at the point of contact. Various tests have demonstrated that the area of contact between the wheel and rail does not appear to influence the sliding of wheels.

Principles of Braking

Among the first and most important investigations to determine the coefficient of friction between brake shoes and wheels and between wheels and rails were those made in England in 1878-1879 by Captain Douglas Galton and George Westinghouse. It is interesting to observe that the results obtained during these experiments are considered most reliable data and have been confirmed by subsequent tests. The following principles established by these tests made 69 years ago apply with equal force to present-day conditions:

1—The application of brakes to the wheels, when skidding is not produced, does not appear to retard the rapidity of rotation of the wheels.

2—When the rotation of the wheels falls below that due to the speed at which the train is moving, skidding appears to follow immediately.

3—The resistance which results from the application of brakes without skidding is greater than that caused by skidded wheels.

4—Just at the moment of skidding, the retarding force increases to an

*From a paper presented before the meeting of the Air Brake Association held at Chicago September 15-17, 1947.

amount much beyond that which prevailed before the skidding took place; but immediately after the complete skidding has taken place the retarding force falls down again to much below what it was before the skidding.

5—The pressure required to skid the wheels is much higher than that required to hold them skidded; and appears to bear a relation to the weight on the wheels themselves, as well as to their adhesion and velocity.

6—In order to obtain the maximum retarding power on a train, the wheels ought never to skid, but the pressure of the brake-blocks on the wheels ought to stop just short of the skidding point. In order that this may be the case, the pressure between the blocks and the wheels ought to be very great when the brakes are first applied, and ought gradually to diminish until the train comes to rest.

Automatic Wheel-Slide Control

Experience has taught enginemen to avoid heavy service brake applications on low-adhesion rails, to consume more time when making station stops and slow-downs when the rail is slippery, and to make only light initial brake-pipe reduction in order to heat the wheels sufficiently to burn the frost off the rail before following up with heavier reductions. These precautions have been helpful when making service brake applications. However, with emergency applications, about the only thing that could be done to overcome partially low wheel-rail adhesion was to drop sand before the brake application, if time permitted. Now the railroads can afford mechanical devices that are available for the purpose of minimizing wheel sliding during braking.

Since 1937, three electrical and two mechanical types of wheel-slide-control devices have been offered for use on railway passenger cars. These devices function to reduce momentarily the braking forces on the wheels whenever they start to decelerate into a slip and thereby permit their resuming train speed. Automatic sanding on each truck of a passenger car is also available and can be associated with the wheel-slip-control device to sand the rail automatically following the first wheel-slip indication. This method of automatically controlling the sanding has the advantages of limiting the use of sand to occasions when actually required, thereby conserving sand, and it supplies the sand at the right time and place. When sand is applied after the wheels begin to slide, it usually will cause the flat spots to be larger than they would have been had the sand not been applied. Excessive use of sand is detrimental to track equipment and sometimes will interfere with automatic block signaling.

When the installations of wheel-slide-control devices first were undertaken, the New York Central System laid down a thumb-nail specification having only two fundamental items, namely, (a) that in the event of possible failure or inoperative condition of this equipment, only the wheel-slide-control effect was to be temporarily lost without influence on normal functioning of the braking system, and (b) that ultimately the objective to be attained was that positive wheel-slide-control protection was to be obtained under emergency brake applications and unfavorable rail conditions.

As a result of a series of overall check tests which we initiated and carried out in cooperation with the interested manufacturers, the above objectives not only were established but also led to constructive simplifications being incorporated in the wheel-slide-control devices.

Following four years' experimenting with all of the various types of wheel-slide-control devices on 32 modern streamline passenger cars used in "Empire State Express" service, the New York Central last year in cooperation with two of the manufacturers, initiated a series of tests to investigate the possibilities of further improving the two most promising devices to provide maximum protection against wheel sliding and yet hold the stopping distance to a safe minimum. These investigations comprised one six-car train test and five series of single-car break-away tests, the last of which was completed on August 22. A total of 431 test stops were made over various rail conditions which included dry rail, dew on rail, artificially wetted rail, rail washed by rain, lightly sprinkled rail, dusty rail, and newly laid rail. Tests were made on well ballasted 127-lb. rail and on 105-lb. rail under which the roadbed was quite irregular.

Early during the development of the wheel-slide-control devices, it was realized that three paramount problems had to be solved; first, a reliable method for detecting the first wheel-slip indication, second, a very fast means for venting brake-cylinder pressure after the slip detection is relayed to the venting mechanism, and, third, proper timing in the restoration of normal brake-cylinder pressure. These three difficulties became very realistic during our single-car break-away tests, wherein it was noted that with emergency brake applications at low speeds on quite slippery rail, the wheels went into slides at rates as fast as 80-100 m.p.h. per second. This means that the wheels ceased rotation in as little as 0.15 second and at the most required less than half a second. About one second is the minimum time yet achieved in venting the brake-cylinder pressure from 60 to 5 lb. Therefore, it is practically impossible to beat the wheel to a slide at all times. However, there were many times at higher speeds when the brake-cylinder pressure was vented fast enough to keep up with the slipping wheels and they were able to resume car speed without going into complete slides. Here again, the rail adhesion was the controlling factor when not low enough to permit the wheels outracing the dump valves.

During the wheel-slide tests, it was observed that when the wheels went into a slide, and the brake-cylinder pressure was vented, the time required for the wheels to resume normal car speed depended upon the rail adhesion and the car speed at the instant. This time varied from 0.1 to 0.8 seconds.

Even though a pair of wheels goes into a slide for an instant and then recovers to car speed, that pair of wheels still provides some retarding effect due to resistance between the wheel and rail in the form of sliding friction and abrasion between the two metal surfaces. The frictional resistance is due to the relative roughness of the two surfaces in contact, and may be compared to the lifting of the weight to be moved over the successive inequalities of the surface on which it rests. Abrasion involves the cutting away of the particles of the metals in contact. Retardation is also produced in getting the pair of wheels back up to car speed as the wheels absorb some of the energy of the moving car in doing so.

Effect of Rail Age on Adhesion

Last year the New York Central experienced several cases of flat wheels on passenger trains on account of the brakes being applied while the trains were on newly laid rail. This led to making single-car break-away tests to determine the difference in adhesion between new and old rail, and to see how much traffic and time were required to wear the new rail down to a good adhesion surface. It was found that new 127-lb. rail which was heavily coated with mill scale provided a minimum adhesion coefficient of 0.12 when the rail was dry.

After about 18 freight trains had passed over the new rail during the first 24 hours in service, it was noted that the adhesion coefficient increased to a maximum of 0.16. This indicated that the adhesion of new dry rail may be as much as 25 per cent less than dry worn rail due to the coating of mill scale always present on new rail; also, that one day of ordinary traffic was sufficient to wear the new rail down to a surface capable of providing rail adhesion equivalent to that of well worn rail.

British Transport Nationalization—Genesis and Program

By G. LLOYD WILSON

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ON January 1, 1948, private ownership and operation or local public operation of land transportation facilities in Great Britain—railways, inland waterways, dock enterprises, motor carriers, and all urban passenger transportation facilities in the London Metropolitan District—comes to an end. A new page in the history of enterprise under public control is being turned in England. More than £1,000,000,000 of transportation facilities go over to public ownership, and a million and a half transportation employees — more than 6½ per cent of all the working force in Great Britain—become public employees.

Despite the far-reaching significance of this wholesale take-over of transportation enterprises the attention paid to it by the American press has been surprisingly small. The importance of the move to the United States is apparent. With the exception of the Canadian Pacific system and a few minor railway properties in other countries, the nationalization of the British railways leaves the railroads of the United States the only privately owned and operated railways in the world. There is another reason why transportation people in the United States should be interested and informed with respect to the British transport scene: there has been for three-quarters of a century a close parallel between the transportation problems and legislation, and particularly railway problems and legislation, of Great Britain and the United States.

The purpose of this article is to summarize briefly the events which led up to the introduction of the legislation, to trace its course through Parliament, to state the principal provisions of the Transport Act, and to recount some of the steps taken thus far to put the plan in effect on January 1, 1948, the take-over date.

The British Transport Bill

On November 27, 1946, the Transport Bill providing for the compulsory government ownership and operation of all railways and other transportation facilities, excepting coastal shipping, was presented in Parliament by Alfred Barnes, the minister of transport. It was approved by the House of Commons on its first vote on December 18, 1946, by a vote of 362 for and 204 against, out of a membership of 640. The opposition vote, which was the largest cast against any measure up to that time introduced by the Labor government, included 180 Conservative members and 24 Independent and Liberal members. This was the first time since the Labor government went into power that the opposition vote was more than 200.

The bill was next placed in the hands of a standing committee of Parliament to be revised into a finished piece of legislation for its third and final reading. With modifications in some of its features, including the elimination of control of motor vehicles used exclusively by shippers—traders, in British parlance—in the carriage and delivery of their own goods, was forced through its third and final reading in the House of Commons on May 5, 1947. It is noteworthy that only three days were allowed for the debate on this momentus legislation. More than 200 amendments to the bill offered by the opposition and 90 amendments offered by the government were overridden in the process of jamming it through the House. The vote on the third reading was 308 for and 114 against.

The bill then went to the House of Lords for criticisms. In the debates in that body the bill was opposed by the non-Labor members as an "ill-conceived and poorly-developed piece of socialization" which had the effect of creating "bureaucracy *in excelsis.*" Some of the arguments for and against the legislation are discussed in this article after its major provisions have been summarized.

The bill, with a number of recommendations of the House of Lords, most of which were left unadopted, was finally passed by the House of Commons after only five hours additional discussion at an all-night session on August 5, 1947. It received royal assent and became the Transport Act, 1947, on August 6.[1]

Thus in a space of less than nine months one of the most drastic pieces of social legislation in modern times became law.

The act provides for the appointment by the minister of transport of a British Transport Commission to consist of a chairman and not less than four and not more than eight other members with broad general powers to provide and promote an efficient, adequate economical and properly integrated system of public inland transport and port facilities within Great Britain. It is charged also with the responsibility of extending and improving the transport system.

The commission is directed to conduct the whole transportation enterprise or undertaking so that the revenue may be not less than the amount sufficient to meet charges, "taking one year with another." The minister of transport is ordered to give the commission directions in matters which appear to him to affect the public interest. The commission is instructed to make an annual report to Parliament.

The act directs that the minister of transport in selecting the members of the commission shall appoint them from among persons "appearing to him to be persons who have had wide experience and shown capacity in transport, industrial, commercial or financial matters, in administration, or in the organization of workers." The chairman and at least four other members are required to render full-time service to the commission. The salaries of the chairman and members are fixed by the minister of transport with the approval of the Treasury.[2] The salary of the chairman has been set at £8,500 and of members at £5,000 a year.

Executives

Public authorities or bodies, designated as Executives, are provided for by the act, to be established by the commission as agents to assist the British Transport Commission in the various areas of its work. The act directs that initially there shall be the following Executives:

1. A Railway Executive,
2. A Docks and Inland Waterways Executive,
3. A Road Transport Executive, and
4. A London Passenger Transport Executive.

Provision is made for the appointment of a Hotels Executive, on the "appointed day." Each Executive consists of a chairman and not less than four nor more than eight other members. The

[1] Transport Act, 1947. 10 and 11 Geo. 6, Ch. 49. August 6, 1947.

[2] Transport Act, Part I, Sections 1-4, and Schedule One.

members of the Executives are appointed by the minister of transport after consultation with the British Transport Commission. Appointment is restricted to those who have had wide experience and shown capacity in transport, industrial commercial, financial, administration or worker organization. Each Executive is a corporate body with perpetual succession and legal identity. A member of the House of Commons is ineligible from serving as a member of an Executive[3] so long as he is a member of Parliament.

The Executives are to function as the managing agents of the Transport Commission in the administration and management of the enterprises within the orbit of their responsibility. They are responsible to the commission and, through it, to the minister of transport.

Consultative Committees

Committees are provided for by the act to be set up by the minister of transport to consider matters affecting the services and facilities provided by the commission. These committees are to consist of a Central Transport Consultative Committee, and area Transport Users Consultative Committees for such area subdivisions as may be designated. Separate area committees may be set up either for both goods (freight) traffic and for passenger traffic, or single committees may be organized to function with respect to both classes of traffic. The members of these consultative committees are appointed by the minister of transport. There is required to be a separate committee for Scotland and one for Wales. The advisory committees are to consist of an independent chairman; a member to represent agriculture, commerce, industry, labor and local authorities. The members are appointed by the minister of transport from among those nominated by the commission.

The Central Transport Consultative Committee is required to contain at least one member of the Transport Commission. This committee reports directly to the minister of transport. The committees' chief function is to make recommendations with respect to transportation facilities and services to the minister of transport or to the Transport Commission, which may be submitted to the committees by users of the services or which may be initiated by the committees.[4]

The Transport Commission may acquire transportation enterprises or facilities by purchase or agreement, including the condemnation and compulsory sale of land under the Acquisition of Land Authorization Procedure Act, 1946. It may, with the consent of the minister of transport, promote or oppose bills in Parliament which deal with matters within its purview. It is interesting to note that the act provides that the transport undertakings under the Transport Commissions' direction are not exempted from local or general taxation.

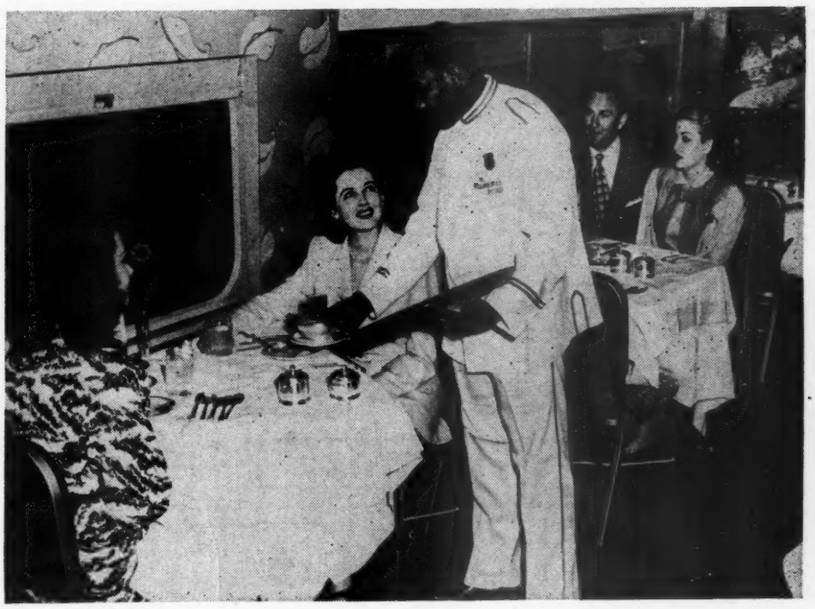
"The Change-Over" Day

On the change-over day, next January 1, all railways, canal undertakings, and the London Passenger Transport Board, are to be transferred to the commission. On the same date all privately-owned railway wagons (i.e., freight cars are to be requisitioned by the minister of transport and after that date no such vehicles, with certain exceptions of minor consequence, may be used in railway services.

The Transport Commission is directed to acquire all vehicles operating in ordinary long-distance road transport services, operating during 1946 under either A or B licenses, that is unlimited or restricted carrier licenses. Long-distance road transport service is construed to mean that which requires operations from their bases for distances of 40 miles or over in one vehicle, or in a succession of vehicles one or more of which at some time during the carriage is more than 25 miles from its operating center. The transportation of liquids in bulk in tank vehicles, meats, livestock, heavy indivisible loads, or household removals are not considered as ordinary long-distance transportation, and such vehicles are not to be taken over.

On and after an appointed day to be set by the commission all road transport licenses of the A or B types are restricted so that goods, excepting the few exempted commodities and special types of vehicles, may not be transported more than 25 miles from the vehicle operators' bases of operation without a permit from the commission. In like manner, conditions are to be attached to other motor vehicle operating licenses limiting operation generally to not over 40 miles from the vehicles' bases of operation without a special license from the licensing authorities.

Area transport schemes are to be prepared by the British Transport Commission for the coordination of passenger



Magnesium Dining Car Chairs Are 77 Per Cent Lighter

Several hundred new dining car chairs constructed from magnesium recently went into service in the diners assigned to the Chicago, Milwaukee, St. Paul & Pacific's streamlined "Olympian Hiawatha." The new chairs, developed in cooperation with the Dow Chemical Company, are of welded tubular construction and have a baked enamel bronze finish. Total weight of the chair frames is only 3 lb., compared with about 13 lb. for the usual dining car chair. In addition to having a reasonable production cost, the magnesium chairs are expected to be cheaper to maintain. Additional seats are on order for other Milwaukee streamliners.

[3] Transport Act, Part I, Section 5, and Schedule 2.
[4] Ibid, Part I, Section 6.

transportation services, and for port or harbor areas. Separate bodies may be organized to operate these schemes or operations may be conducted by the commission directly. The plans must be submitted in advance to the minister of transport for approval by order. The bodies appointed to conduct such operations may direct that port facilities in the areas within their respective jurisdictions may be conducted only under a licensing system.

Provision is made for appeals to the Transport Tribunal by those aggrieved by any licensing action of the commission, and if objections are made to any order of the Ministry of Transport the order shall not become effective without action by Parliament.

Liaison With Coastal Shipping

Liaison is to be established and maintained between the British Transport Commission and coastal shipping interests which otherwise are not subject to the provisions of the act, by a Coastal Shipping Advisory Committee. The Transport Commission may prohibit canal carriers from operating for hire, excepting under licenses to be issued by the commission with discretion, in order to secure the better use of canals. Appeals may be taken to the Transport Tribunal.

The compensation for the property proposed to be taken over by the compulsory acquisition provided for by the bill or by any plan under it is in the form of British Transport Stock to be issued by the British Transport Commission. Such securities are to be of value equal to the amount of compensation. The value is to be determined by the Treasury. If the amount payable as compensation for the compulsory acquisition to any road transport operator or private railway wagon owner does not exceed £2,000, the compensation may be made in cash.

The act directs the compensation for the compulsory acquisition to be made in several ways:

1. For railways and canal undertakings, the basis is the average marked values of the securities of the companies on certain dates provided for in the act, in the month of November, 1946;[5]
2. For road haulage undertakings the basis is the net value of the assets, plus, in certain cases, an amount to compensate for the cessation of business and severance from it;[6]
3. For local transportation undertakings, the basis is an amount to cover the interest and sinking fund charges on the outstanding debt;[7] and
4. For privately owned railway wagons or cars, the basis of compensation is determined by the commission on the value of the equipment with reference to age and condition and original cost.[8]

[5] Transport Act, 1947, Third and Fourth Schedules.
[6] Ibid, Part III.
[7] Ibid, Part IV.

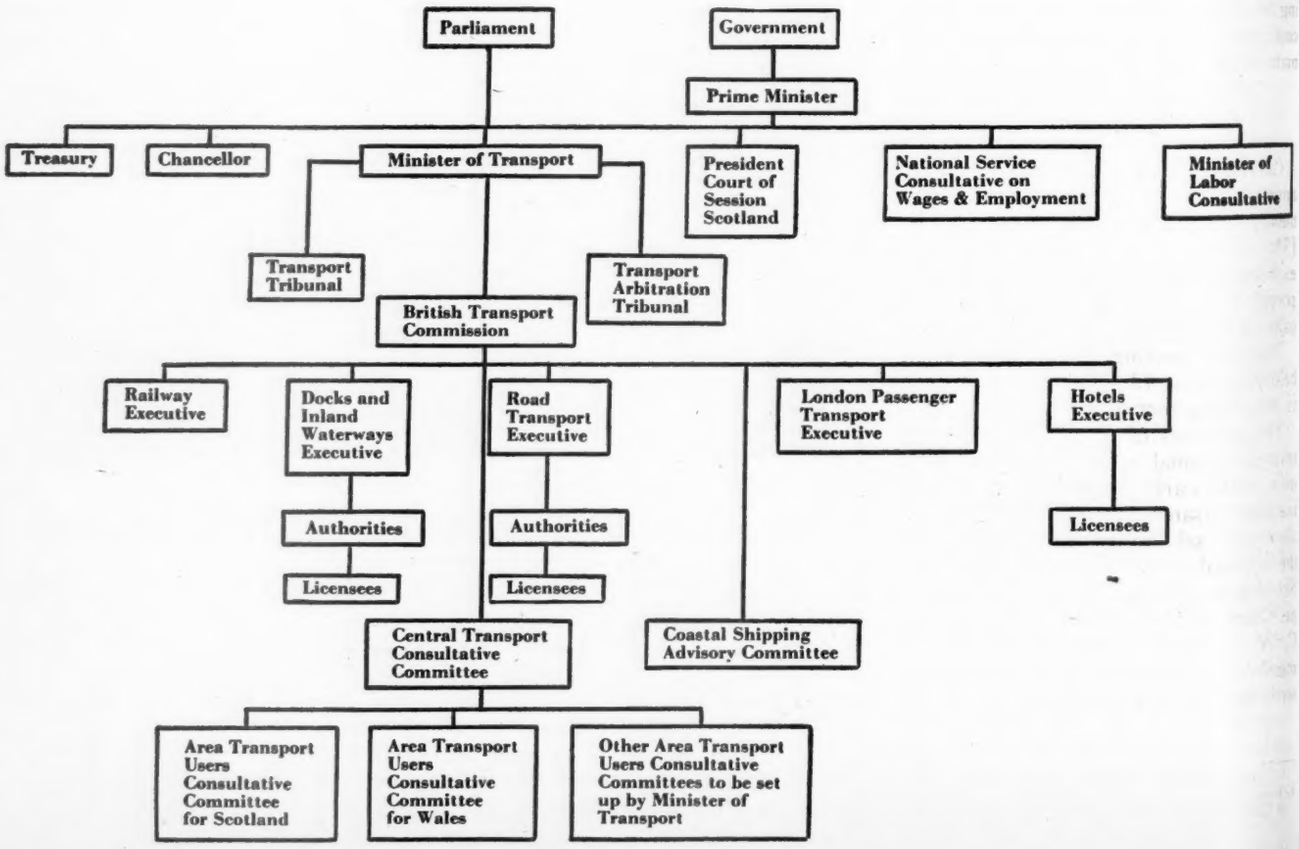
The Tribunals

An administrative agency, the Transport Arbitration Tribunal, consisting of one member with legal experience to be appointed by the Lord Chancellor, one member to be appointed by the Lord President of the Court of Session (Scotland), and two members, one with business and the other with financial experience, to be appointed by the Lord Chancellor, is provided for by the act to be set up to settle disputes arising out of the compulsory acquisition.[9]

The act provides that the present Railway Rates Tribunal become the Transport Tribunal and its jurisdiction be broadened to include, in addition to its present duties, jurisdiction now exercised by the Railway and Canal Commission. This jurisdiction is to include the regulation of the general level of rates and charges. The British Transport Commission is required by the Act to submit its plans for rates and charges to the Transport Tribunal for confirmation or modification and approval.[10]

[8] Transport Act, Part II and Sixth Schedule.
[9] Ibid, Part VIII, Sections 105-113, inclusive.
[10] Ibid, Part V, Sections 72 to 87, inclusive.

Diagram of British Transport Commission's Relation to Other Organizations



Elaborate arrangements are made in the act for wages and working conditions to be established and maintained by the commission, and for pensions and displacement compensation. In these matters the commission is directed to consult the minister of labor and the National Service.[11]

Financial Arrangements

The commission is authorized to issue British Transport Stock in compensation for the compulsory acquisition of the properties, to borrow up to £250,000,000 by the issuance of such stock, with the consent of the minister of transport and the approval of the Treasury. It may float temporary loans of not over £25,000,000. The stocks so issued and the loans floated by the commission may be guaranteed by the Treasury. The plans of guarantee must be submitted to Parliament and the amounts for fulfilling the guarantees are to be charged to the consolidated funds.

A general reserve is required to be established by the commission, one purpose of which is to prevent frequent fluctuations in charges. Accounts kept by the commission are to be subject to audit by the minister of transport, and an annual statement of the accounts of the commission is to be made to Parliament.

The estimate of the amount of British Transport Stock to be issued in compensation for the acquisition of the railways, canal undertakings, and London Passenger Transport Board, but excluding all other properties the acquisition cost of which it is impossible to estimate, is £1,065,000,000.[12]

Administration

On August 8 the minister of transport announced the personnel of the five-member British Transport Commission. [The names of the members, and their experience and affiliations, were reported in *Railway Age* of September 6, page 65.—EDITOR]

The first meeting of the board was held on August 13. The technical staff is now being recruited.

The members of the Transport Arbitration Tribunal which has jurisdiction over matters arising out of the nationalization of transport under the act have also been selected. The president of the tribunal for proceedings other than Scottish is C. Montgomery White. The president for Scottish proceedings is C. W. G. Guest. The other two other members of the tribunal are B. G. Catterns and Sir Russell Kettle.

The minister of transport announced September 11 the appointments to the Railway Executive. [The names of the members and their railroad or government connections were reported in *Railway Age* of October 11, page 81. The salary of the chairman has been fixed at £7,000 per annum, of the regular members, £5,000.—EDITOR]

[The Railway Gazette (London) of November 28 indicates that special functional responsibilities are being assigned to each member of the Executive, as follows:

Sir William Slim — public relations, stores, real estate;
W. P. Allen — employee and labor negotiations and welfare;
David Blee — passenger, freight and commercial development;
R. A. Riddles — mechanical and electrical engineering; and
J. C. L. Train — civil engineering and signaling.

[Two part-time members, one of whom is primarily interested in Scottish affairs, will assist mainly in commercial relations, and Sir Eustace Missenden, as chairman, will coordinate the Executive's activities. The Railway Gazette explains that it is intended to make the delegation of responsibility so comprehensive that no question will arise as to rights and responsibilities, affording the Executive wide discretion in management, maintenance and administration of the railroads, subject to the overall authority of the commission. The public will deal with the Executive, instead of the present companies, and the Executive will hire all employees, and enter into contracts and sue or be sued.

[With the idea of avoiding "undue centralization" and to provide machinery for local contacts and the recognition of local needs, the existing set-up of four principal British railway companies is to be discarded. The unified system will be known as the British Railways, and at first will be made up of six regions, as follows:

1. London Midland — corresponding to the lines in England and Wales of the present London Midland & Scottish company;
2. Western — corresponding to the system of the Great Western;
3. Southern — corresponding to the system of the Southern;
4. Eastern — corresponding to the southern area of the present London & North Eastern, i.e., from Doncaster to Leeds and London;
5. North Eastern — corresponding to the northeastern area of the L. & N. E., i.e., from Doncaster to Berwick; and
6. Scottish — taking in the lines in Scotland of the present L. & N. E. and L. M. & S. systems.

[In each region there is to be a responsible chief regional officer to coordinate the work of the departmental regional officers, but these departmental or functional officers will be primarily responsible to and directed by the member of the Executive in charge of the particular department rather than the chief regional officer. The chairman of the commission has announced that, except for those few principal officers to whom special instructions will be issued, all officers of the present railway companies will continue under nationalization to exercise their present functions, and their responsibilities to their supervisors will be unaltered.

[The commission has summed up the magnitude of the British Railways as "the most important unified railway system in the world." It will have some 635,000 employees, 52,000 miles of track, 20,000 locomotives, 40,000 passenger-train cars and 600,000 freight cars. Its trains will carry each year some 1,200,000,000 passengers and 226,000,000 tons of freight, half of which is coal.—EDITOR]

The Commission's Task

The task of the British Transport Commission and Executives, under the responsible leadership of the ministry of transport, is to set up and integrate the various forms of transport, some heretofore privately and others publicly owned by local administrators, into a national system of transport at a time when the economic, political and social structure of Great Britain is in a critical state. The rolling stock, motive power and permanent way and structures of British railways are badly impaired due to war devastation and excessive use without opportunity for adequate repairs and replacements. It has one of the heaviest responsibilities ever placed upon a body of men under conditions which are far from auspicious.

Although the opposition in the House of Commons and House of Lords voiced by Conservative and Liberal members has been outspoken and often savage, the spokesmen of the opposition parties, and of the opposition and trade press, have been less critical of the persons selected to administer the scheme. The Railway Gazette, which has consistently opposed the legislation, states: "The commission will largely stand or fall by the success with which it achieves" the integration of main-line railways, and "the facilities which it is able to provide for trade and industry generally."[13]

Mr. Roger Sewill, Director of the Road Haulage Association at the Annual Dinner of the Hull Center of the Institute of Transport, expressed the opinion that the nationalization of transport scheme, "cumbersome as it is, will be made to work," largely because the commission had been able to "recruit its staff from persons trained in free

[11] Transport Act, Part VII, Sections 95 to 104, inclusive.
[12] Ibid, Part VI, Sections 88 to 94, inclusive

[13] Railway Gazette, London, Vol. 87, No. 7, August 15, 1947, p. 171.

enterprise." Even with decentralization carried to the farthest point, "it is inevitable that orders will not be executed as promptly as formerly." Later, he thought, "the manning of the staff of the commission will be more difficult." "The larger and more complicated the organization, the better the brains required to run it." He expressed doubt that persons of first rate ability would be attracted if the scale of remuneration was unsatisfactory. It is rumored that the Treasury is considering salary standards and limitations on all state-controlled enterprises.[14]

Arguments for the Legislation

To summarize the voluminous arguments offered in support of and in opposition to the bill as expressed in Parliament and in the British press is a presumptuous undertaking, particularly for one who is so far from the scene.

The government has dwelt particularly upon several lines of argument:

1. The supply of capital needed to rehabilitate British industries and facilities after the destruction and abuse during the war is so limited in amount that it must be rationed by the government and allocated to industries which need the capital worst and not be bid for competitively by privately owned and operated industries.

2. The railways, the government alleges, were so badly damaged and abused during the war that they would not be able to be rehabilitated as private projects. This argument was challenged by the railways. Hugh Dalton, then chancellor of the exchequer, referred to the railways as "a sorry bag of assets the revenues of which were declining rapidly."

3. Port and harbor facilities and undertakings, badly damaged by war were said to be in no position to attract private capital or even local public capital to undertake necessary rehabilitation and improvement.

4. The British railways before World War II were badly harassed by motor truck and bus competition and the only practical way to achieve coordination of road and rail transport was through monopoly, which in the opinion of the Labor government, meant public and not private monopoly. Mr. Dalton stated that the railways had been "sheltered by legislative and administrative action and they would be totally bankrupt in a few years if the government allowed the full blast of road transport competition to blow upon them."

5. The nationalization of transport was urged by the government as consistent with the objectives of the Labor party to nationalize other basic industries and utilities, and it would be inconsistent with the principles of a Socialist government to allow such key industries as transport undertakings to be privately owned and operated.

6. British railway employees for many years have advocated public ownership and operation of railways and have been influential in the development of the platform of the Trade Union Congress in demanding it. The majority of railway employees have insisted upon nationalization at this time because "a Labor government should be an ideal employer."

The numerous and persuasive arguments of the opponents to nationalization are equally difficult to sum up. They represent many variations of these major themes:

1. The legislation is ill-conceived, hastily drawn and is doctrinaire in character.

2. It is urged that it sets up an overly elaborate, costly and unwieldy bureaucracy.

3. Objections are raised that the compensation paid by the government for the transport undertakings, particularly the railways, is inadequate both as to capital sum and interest rate as compared to the value of the securities and properties forcibly acquired.

4. The railways' managements have protested that the properties are taken over without affording them an opportunity to demonstrate their ability to rehabilitate their facilities and services after the devastation of war.

5. Spokesmen of motor transport enterprises have objected to nationalization on the ground that coordination of rail and road transportation in the public interest could be achieved better under private ownership and operation and public regulation than under public monopoly.

6. Shippers, although remarkably little appears to have been said on their behalf, have objected that nationalization denies them freedom of choice among competitive transport facilities and services. It restricts the right to choose carriers and services and to benefit from the efficient operation of competitive services. It also restricts the right of entry into transportation services at a time when it is needed to insure efficient and adequate services.

7. Objections are raised by many representatives of the opposition that once the program of nationalization is set up, it would be difficult if not impossible to change the policy of the government and revert to private ownership and operation of transport even if there were a change of government.

8. It is urged that the program substitutes ministerial control for the incentives of profit to improve services and improve efficiency.

9. In order to avoid detailed political direction, the administration is entrusted to an independent commission required to operate on commercial lines; but, in order to assure the political objectives of nationalization, it is necessary to reserve to the responsible minister the power to issue directions to the commission, the effect of which inevitably is to supersede the autonomous discretion of the commission. The plan, therefore, becomes finally subject to political control.

Reasons for Nationalization

Gleanings from comments of various commentators in the public and trade press and in the debates reported in Hansard, ascribe nationalization chiefly to the present overpowering strength of the Labor party in the House of Commons, but other reasons are advanced, including among others:

1. The alleged failure of railways to work out integration of their services and operations with the result that a large portion of the work of the railway organizations had become inter-company detail work rather than constructive transportation work.

2. Failure of previous governments, railways and motor carriers adequately to coordinate thei rservices and facilities to provide satisfactory joint services.

3. The ever-increasing complexities of railway rates and charges, including the multiplication of "exceptionals" and other special rates.

4. Failure of railways to develop personnel and employment practices and systems of promotion which their employees considered fair and equitable.

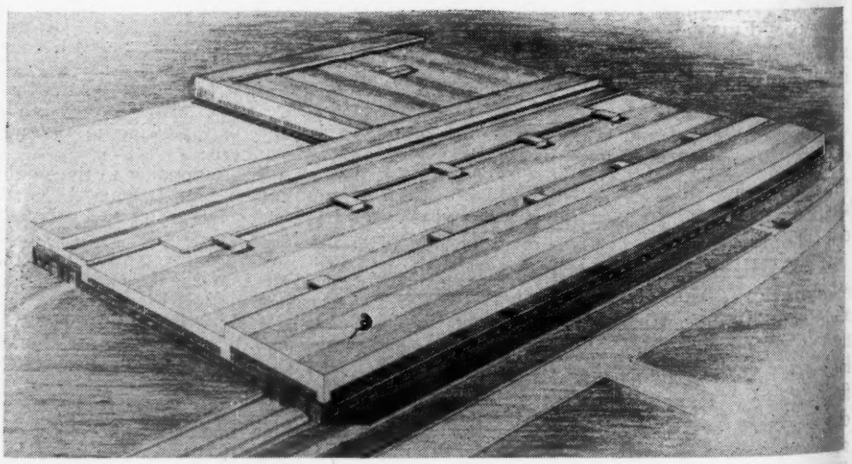
5. Failure of railways to provide office facilities and working conditions satisfactory to employees.

6. The apprehension of many that railways would be financially unable to rehabilitate their properties and improve their facilities to the extent necessary to meet postwar conditions.

7. The apparent concern of security owners only in the amount of compensation to be paid them for their securities, due probably to the apprehension that if the railways continued under private ownership that additional preferred securities would be issued in order to finance the railways which would impair the value of the common stockholders' equity.

8. The apathy and apparent indifference of shippers.

* * *

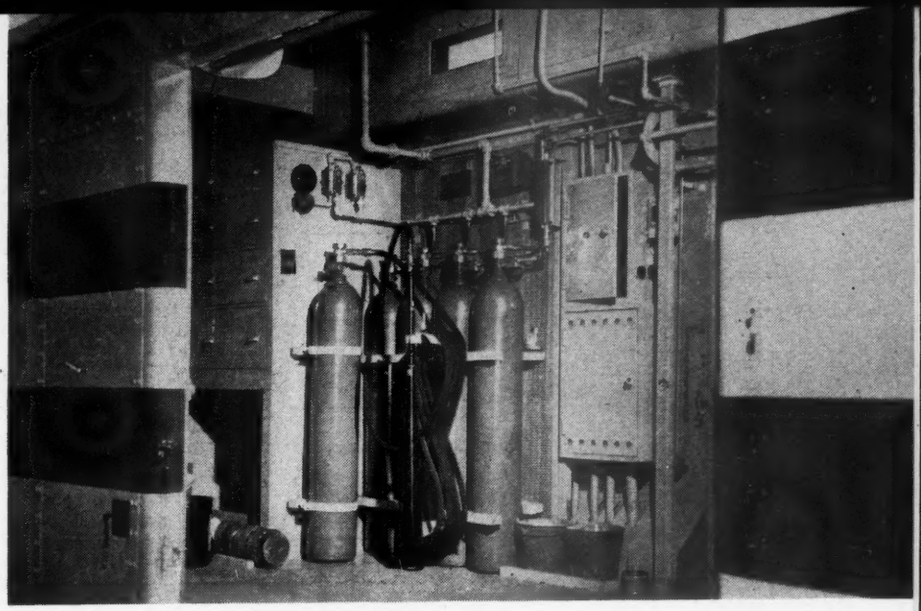


Caterpillar Plans New Factory at Peoria, Ill.

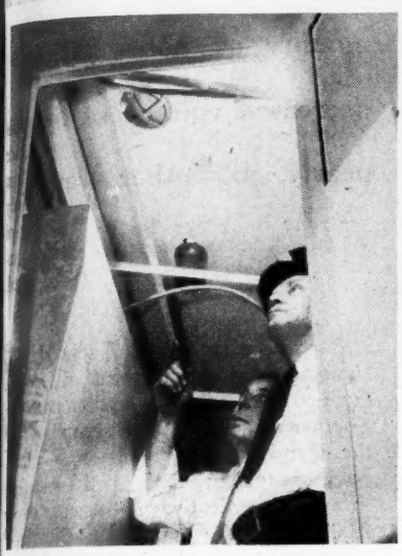
Approximately 785,000 sq. ft. of manufacturing area will be provided in the new building to house facilities for the manufacture of tractors and graders and for assembly of scrapers, wagons and rippers.

[14] Railway Gazette, London, Vol. 87, No. 17, October 24, 1947, p. 453.

By P. W. EBERHARDT
Vice-President, Walter Kidde & Co.



Four 100-lb. carbon dioxide cylinders supply the automatic fire-extinguishing system in the equipment car. A fifth cylinder with a hose reel supplements the automatic system



The fixture in the ceiling at the top of the picture is the rate-of-temperature-rise fire detector which automatically controls the carbon dioxide flooding system. The other fixture in the ceiling is a multijet nozzle which discharges the gas around the document display located on the other side of the metal case shown at the left

"Freedom Train" Is Landmark in Railroading Security

THERE can be no price fixed on the "Freedom Train's" irreplaceable cargo. Realizing the priceless nature of the documents, the train's designers have tried to anticipate every conceivable accident that might occur.

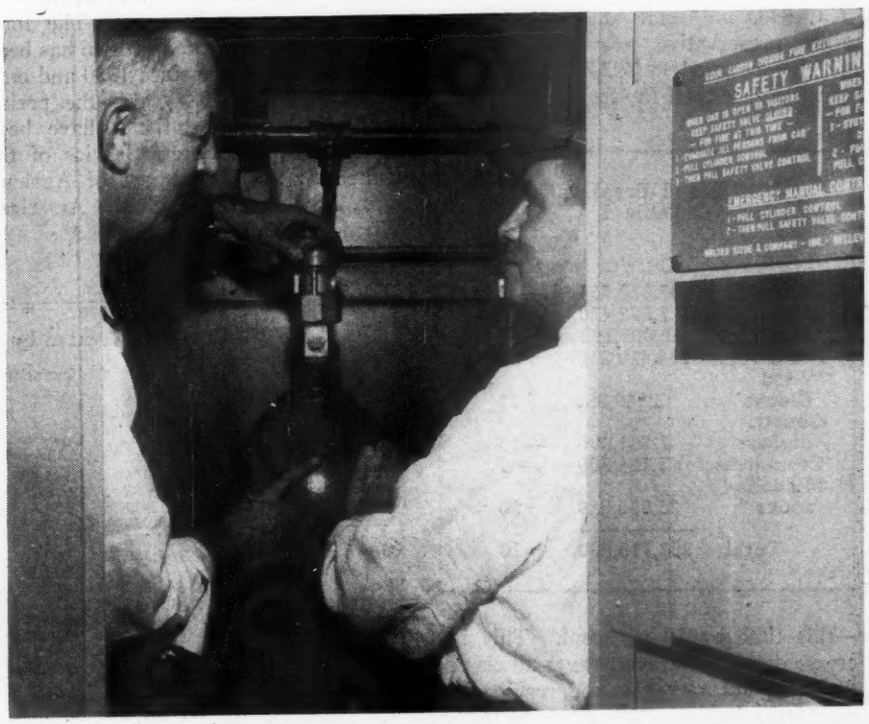
Documents are covered with two sheets of half-inch thick clear plastic that is shatter-proof, water- and fire-resistant, and strong enough to withstand the impact of a 100-lb. ball traveling at a speed of 50 m.p.h. The doors in the three exhibit cars are made of steel containing safety glass windows covered with steel bars and fitted with protective tape connected to a burglar-alarm system. Special locks keep the doors closed after exhibit hours.

The train is also carefully guarded against fire. All the paint is fire-resistant, while the carpeting is chemically treated to resist flame. The three exhibit coaches and the equipment car are fully protected by an automatic carbon dioxide fire extinguishing system, designed especially for the train by Walter Kidde & Co.

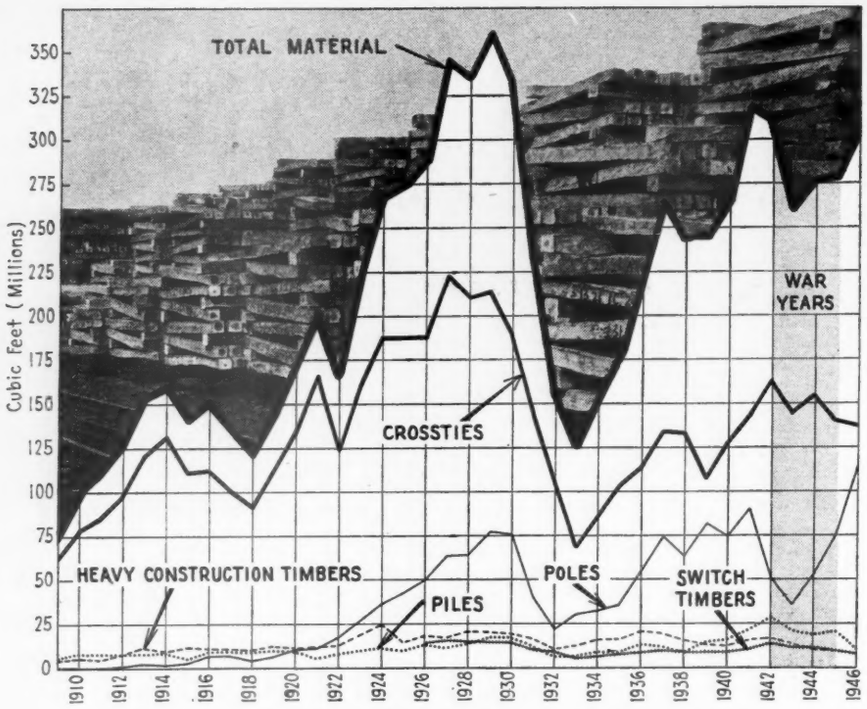
Each exhibit car contains five 100-lb. supply cylinders of carbon dioxide stored as a liquid under a pressure of 850 lb. per sq. in. Connected to the cylinders is a simple piping system and new multijet discharge nozzles which run behind the document panels and stand ready to fill the car's interior with inert carbon dioxide gas the instant fire breaks out at any point.

The control mechanism of the carbon dioxide system consists of five fire detectors which work when the tempera-

(Continued on page 67)



The space normally occupied by the train washrooms houses the five 100-lb. cylinders of liquid carbon dioxide in each exhibit car



This chart shows the trend of wood preservation from 1909 to date, with one of the curves showing all material treated and the others indicating the trends for the different categories

More Timber Was Treated in 1946

Abnormally large gain in the number of poles has offset decreased volume of ties and nearly all other categories

CONTINUING a trend started in 1943, the total amount of wood given preservative treatment in 1946, which amounted to 307,713,600 cu. ft., exceeded the total for the previous year

1946 Wood Preservation
Table I

	Cu. Ft.	% Change over 1945
Crossties	137,073,531	— 2
Switch ties	7,522,420	—24
Piles	10,096,192	—50
Poles	114,410,210	+55
Wood Blocks	3,889,982	+18
Constr. timbers	7,561,096	—13
Crossarms	1,184,800	— 9
Miscellaneous	25,975,289	+30
Total	307,713,600	+10

—this time by 10 per cent. This increase did not, however, cover all classifications, but rather is the result of a very large increase (50 per cent) in the treatment of poles, which offsets decreases in all other materials treated except wood blocks and the group of miscellaneous, small items. The total amount of wood treated in 1946 has been exceeded only twice since 1930 and only six times in the 38 years—the period over which these statistics have been compiled by the Forest Service of the United States Department of Agriculture, in cooperation with the American Wood-Preservers' Association.*

As can be seen from Table II which summarizes the treatment of crossties during 1946, oak ties predominated and Southern pine ties were second. While these species held their same relative positions as in 1945, both lost some ground numerically. A decrease of over 2,000,000 in the number of Douglas fir ties treated, combined with an increase of more than 1,000,000 gum ties, caused these two species to exchange places in the standing.

In spite of shortages of creosote, approximately the same number of crossties were treated with that preservative in 1946 as in 1945. Fewer ties, however, were treated with a mixture of creosote and petroleum. To offset this difference, creosote - petroleum - copper naphthenate was used for the first time. The miscellaneous preservatives used included chromated zinc chloride, petroleum-pentachlorophenol solution, creosote, petroleum-pentachlorophenol solution, Wolman salts and others.

The report for 1946 lists 32,769,511 crossties as having been adzed and/or bored and 12,921,666 as neither adzed nor bored. No segregations were made

* From 1915 through 1945 these compilations were prepared annually by R. K. Helphenstine, Jr. who has now retired from the Forest Service. The data for 1946 were collected and assembled under the direction of Henry B. Steer of the same department.

Table II—Crossties Treated by Kind of Wood and Preservative—1946

(Quantity—number of ties)

Kind of wood	Creosote[1]	Creosote petroleum[2]	Creosote petroleum copper naphthenate	Zinc chloride	Miscellaneous preservatives	Total	Per cent of total
Oak	11,718,034	3,963,929	494,566	.....	8,475	16,185,004	35.4
Southern pine	8,935,865	3,675,251	354,556	.....	24,004	12,989,676	28.4
Gum	3,531,903	1,504,413	475,734	.....	6,839	5,518,889	12.0
Douglas fir	1,055,886	2,932,293	.....	.....	84,724	4,072,903	8.9
Beech	632,700	462,830	32,429	.....	820	1,128,779	2.4
Maple	463,360	562,906	14,832	.....	820	1,041,918	2.2
Larch-tamarack	.....	990,244	.....	.....	.....	990,244	2.1
Birch	250,567	412,906	13,332	.....	.....	676,805	1.4
Lodgepole pine	11,946	439,367	.....	179,404	.....	630,717	1.3
Ponderosa pine	.....	549,279	.....	.....	.....	549,279	1.2
Hemlock	5,371	329,478	.....	.....	15,651	350,500	0.7
Elm	116,179	81,176	6,652	.....	.....	204,007	0.4
All other	679,409	568,566	67,607	.....	36,874	1,352,456	2.9
Total	27,401,220	16,472,638	1,459,708	179,404	178,207	45,691,177	.....
Per cent of total	59.97	36.05	3.20	0.39	0.39	.....	100.0

[1] Includes distillate coal-tar creosote and solutions of creosote and coal tar.
[2] Includes various-percentage solutions of creosote and petroleum.

as to the number that were adzed and not bored or that were bored but not adzed.

The 1946 treatment of switch ties, shown in Table III, followed closely the pattern of 1945, except that the amount treated was 24 per cent less and, as in the case of crossties, creosote-petroleum-copper naphthenate was used for the first time.

Poles Treated

Poles made the most outstanding advance of any classification of material treated in 1946. They continued a precipitous rise, started in 1943, to an all-time high of 6,546,116 poles treated. This was a gain of about 55 per cent over the number treated in 1945. The relationship between the number of poles treated, the species of wood, and whether full-length pressure or only butt treatment were given, is shown in Table IV.

Table IV—Poles Treated in 1946

Kind of Wood	Full-length pressure treated	Non-pressure butt-treated
Southern pine	4,694,151	71,044
Douglas fir	637,049	160,282
Western red cedar	8,676	401,519
Lodgepole pine	158,966	186,285
Northern white cedar	.....	115,336
Ponderosa pine	16,832	1,094
Miscellaneous	37,391	57,491
Total	5,553,065	993,051

Creosote was used for the treatment of 3,186,926 poles, creosote-petroleum-pentachlorophenol for 1,503,120, creosote-petroleum solution for 997,357, creosote petroleum-copper naphthenate for 690,856, petroleum pentachlorophenol solution for 153,569, and various other preservatives for the remainder.

Treatment of Piles

The total amount of piles reported treated with preservatives in 1946 was 14,928,570 lin. ft. (Table V). This represents a decrease of more than 50 per cent under the quantity given treatment in 1945. The reason for this decrease given in the Forest Service report was, "in large measure, the ending of the war, and the reduced need for piles for docks and other shipping facilities." This decrease was in marked contrast to an increase in 1945 over 1944.

The fire-retardant treatment of wood is shown in Table VI for each year since reports were first made of it in 1942. These figures indicate that while the amount of wood treated has decreased far below the peak year, 1943, when so much war construction created an extremely heavy demand, there still continues a sizeable civilian use. This comparatively new service being offered by the wood preserving industry crammed the equivalent of many years of experience into a few concentrated war years, and by the performance records set up in those years bids fair to continue in high demand.

Table VII compares the last five

Table III—Switch Ties Treated by Kind of Wood and Preservative—1946

(Quantity—feet, board measure)

Kind of wood	Creosote[1]	Creosote petroleum[2]	Creosote-petroleum-copper naphthenate	Miscellaneous preservatives	Total	Per cent total
Oak	40,428,974	10,038,426	957,852	30,427	51,455,679	57.00
Southern pine	12,230,542	1,955,044	7,992	13,406	14,206,984	15.74
Douglas fir	302,016	8,016,559	169,822	346,507	8,834,904	9.79
Gum	5,701,262	2,361,215	451,029	17,508	8,531,014	9.45
Maple	741,159	1,325,165	30,664	4,000	2,100,988	2.33
Beech	1,028,598	489,964	72,009	5,000	1,595,571	1.77
Larch-tamarack	.....	1,447,350	.....	.....	1,447,350	1.60
Birch	409,664	157,970	30,664	4,000	602,298	.67
Ponderosa pine	.....	472,939	.....	.....	472,939	.52
Elm	118,521	104,674	15,002	2,158	240,355	.26
Lodgepole pine	.....	14,755	.....	.....	14,755	.02
All other	507,745	169,576	86,050	2,832	766,203	.85
Total	61,468,481	26,553,637	1,821,084	425,838	90,269,040	.....
Per cent of total	68.09	29.42	2.02	0.47	.....	100.00

[1] Includes distillate coal-tar creosote and solutions of creosote and coal tar.
[2] Includes various-percentage solutions of creosote and petroleum.

Table V—Piles Treated by Kind of Wood and Preservative

(Quantity—linear feet)

Kind of wood	Creosote[1]	Creosote petroleum[2]	Creosote-petroleum-pentachlorophenol solution	Creosote-petroleum copper-naphthenate	Miscellaneous preservatives	Total
Southern pine	8,294,879	826,214	877,405	245,835	38,637	10,282,970
Douglas fir	3,648,259	403,523	350,438	8,899	10,537	4,421,656
Oak	181,457	990	.....	1,652	.....	184,099
Miscellaneous	26,255	1,753	904	7,651	3,282	39,845
Total	12,150,850	1,232,480	1,228,747	264,037	52,456	14,928,570

[1] Includes distillate coal-tar creosote and solutions of creosote and coal tar.
[2] Includes various-percentage solutions of creosote and petroleum.

Table VI—Fire-Retardant Treatment of Wood

	1946	1945	1944	1943	1942*
Quantity of wood treated, ft. b.m.	4,466,565	6,748,626	8,527,428	65,636,518	22,284,402
Chemicals used, lb. dry basis	1,020,809	1,803,500	2,111,967	20,779,511	5,151,284

* First year of record.

Table VII—Treatment of Selected Items of Miscellaneous Material—Ft. b. m.

	1946	1945	1944	1943	1942
Lumber	239,952,302	176,339,546	197,613,878	270,525,549	287,191,977
Fence posts	46,462,181	35,874,881	40,319,095	21,255,494	37,401,538
Tie plugs	4,682,553	4,159,079	3,514,076	2,146,370	1,694,468
Crossing plank	825,831	708,448	None reported	None reported	None reported
Car lumber	374,374	123,732	183,320	159,792	272,103

Table VIII—Plants in Service & Preservatives Used During 1945 and 1946

		1945	1946
Number of Plants in Operation		219	236
Creosote			
Domestic distillate-coal-tar creosote[1]	gal.	132,478,718	111,241,942
Imported distillate-coal-tar creosote[1]	gal.	.....	1,014,553
Solutions of creosote and coal-tar	gal.	62,747,221	61,054,425
Total creosote	gal.	195,225,939	173,310,920
Solutions of creosote and petroleum[2]	gal.	63,875,353	101,601,303
Creosote-petroleum-pentachlorophenol	gal.	.....	15,384,011
Petroleum-pentachlorophenol	gal.	.....	5,506,332
Creosote-petroleum-copper naphenate	gal.	.....	8,361,837
Zinc chloride, plain	lb.	419,011	780,316
Zinc chloride, chromated	lb.	2,328,006	3,065,374
Wolman salts	lb.	732,154	1,669,889
Zinc meta arsenite	lb.	17,980	14,650
Celcure	lb.	172,080	286,187
Pentachlorophenol	lb.	279,881	5,289,843
Copper naphthenate	lb.	.....	2,269,546
Miscellaneous preservatives			
Salts	lb.	1,348,285	1,378,919
Liquids	gal.	7,915	58,294

[1] Includes distillate coal-tar used in solutions of creosote and petroleum.
[2] Includes various-percentage solutions of creosote and petroleum, the creosote content of which is included in either domestic or imported distillate coal-tar creosote.

years' treatment of miscellaneous materials commonly used by the railways. In 1946 all classes increased over 1945, with the largest increases occurring in car and other lumber.

Preservatives Used

The consumption of preservatives by the wood-preserving industry in 1945 and 1946 is shown in Table VIII. The shortage of domestic creosote was reflected in several significant changes in the use of preservatives: (1) Less creosote and creosote-coal-tar solutions were used; (2) imported creosote was reported as used for the first time since 1943; (3) creosote-petroleum-pentachlorophenol, petroleum-pentachlorophenol and creosote-petroleum-copper naphthenate, among the liquids and copper naphthenate among the dry preservatives, were used for the first time; and (4) larger amounts of all other preservatives, except the relatively small amount of zinc meta arsenite, were used.

Although Table VIII shows no imported creosote reported as used in 1945, records of the Department of Commerce indicated the importation of 2,237,068 gal. of distillate coal-tar creosote that year. The Forest Service report explains this apparent discrepancy by an assumption that domestic producers furnished imported creosote to wood preserving plants in lieu of domestic. Those plants in turn, having no advice to the contrary, reported it as domestic creosote. Consequently, whereas it is reasonable to believe that some imported creosote was used for wood preservation in 1945, Table VIII, compiled from reports of wood preserving plants, cannot indicate any such use.

During 1946, 236 treating plants were in operation in the United States. This was 17 more than in 1945. Of the total number of active plants, 197 treated wood for sale or by contract; 22 were owned or operated by the railways; and 17 were plants owned or operated by public utilities, mining companies and others.

Table IX—Wood Preservation 1909-1946
Together with Consumption of Creosote and Zinc Chloride

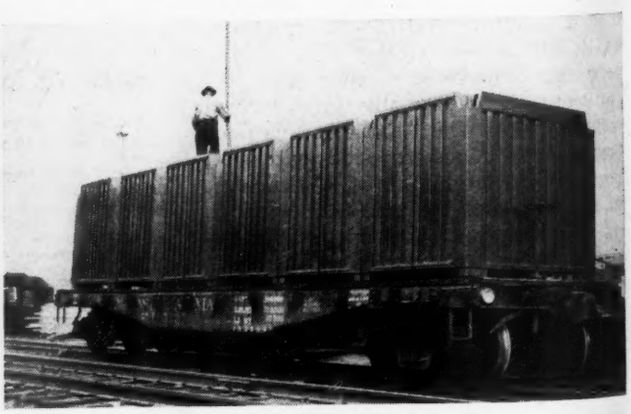
Year	Total material treated cu. ft.	Number crossties treated	Creosote used, gal.*	Zinc chloride used, lb.**
1909	75,946,419	20,693,012	51,426,212	16,215,107
1910	100,074,144	26,155,677	63,266,271	16,802,532
1915	140,858,963	37,085,585	84,065,005	33,269,604
1920	173,309,505	44,987,532	70,606,419	49,717,929
1925	274,474,539	62,563,911	169,723,077	26,378,658
1930	332,318,577	63,267,107	213,904,421	13,921,894
1935	179,438,970	34,503,147	124,747,743	4,080,387
1940	265,473,149	42,666,598	174,625,305	5,180,896
1942	312,934,621	54,175,380	216,347,768	5,051,263
1943	261,138,980	48,229,067	177,786,315	3,122,302
1944	277,686,727	53,044,598	188,758,182	2,836,420
1945	279,449,934	46,735,177	195,225,939	2,747,017
1946	307,713,600	45,691,177	173,310,920	3,845,690

* Includes solutions of creosote and coal tar.
** Includes chromated zinc chloride.

New Welded Shipping Container

Dravo Corporation, Neville Island, Pittsburgh 25, Pa., has developed a welded steel shipping container which is 7 ft. 9 in. long, 6 ft. 5 in. wide and 6 ft. 10½ in. high. It weighs approximately 1,700 lb. and has a design load of 12,000 lb. The bale capacity is 276 cu. ft. Six of these containers easily can be loaded on a standard 40 ft. (I.L.) flat car, and the container can be handled either by fork truck or crane, since corner lifting lugs make possible handling by the latter.

Walls of the container are 18 gage sheet steel, formed to provide vertical reinforcing corrugations about 4 in. wide and 2 in. deep. The floor is 16 gage sheet steel laid on reinforcing 14 gage sheet steel with formed corrugations. The roof is formed by 16 gage corrugated steel covered by flat 16 gage sheet steel. Double doors, of the same material as the walls, form an opening 53½ in. wide and 71¼ in. high and can be locked. The container is said to be weather tight.



(Left) Interior view showing construction details of the Dravo container and giving an idea of its size—(Below) Six Dravo welded steel shipping containers loaded on a standard 41 ft. 6 in. flat car

The Diesel-electric locomotive at work in the hardwood stockyards of the W. T. Smith Lumber Company, Chapman, Ala.

Diesel Pays Off for Lumber Plant

USE of a 25-ton, 150-hp., General Electric Diesel-electric industrial locomotive by the W. T. Smith Lumber Company, Chapman, Ala., has reduced operating and maintenance costs by approximately $4,200 in its first year of service, according to N. Floyd McGowin, president of the company. At this rate the locomotive, which performs all switching operations on the 15-mile intra-plant track, will pay for itself in slightly more than four years. The Diesel-electric was placed in operation at the mill in June, 1946, replacing a 45-ton, coal burning steam locomotive which has since been sold.

The new locomotive is used for switching all freight cars to and from the connecting main-line railroad (a distance of two miles), switching between various stockyards and the mill itself (distances ranging up to one and a half miles) and, when necessary, in logging operations.

Switching Time

Time required for switching operations at this mill, which produces millions of feet of finished lumber each month, has been cut in half since the Diesel replaced the steam locomotive. Switching operations, when performed by the coal burning steam locomotive, took all day, whereas the Diesel-electric handles the same amount of switching in less than half a day. During an average day, the new locomotive switches approximately 20 freight cars to and from the railroad interchange, and spots and removes approximately 10 cars throughout the stockyards. Its operating speed varies with the type of work being performed, the load, and the distance of the run. In most cases, the speed averaged is between 5 and 10 miles an hour. The track consists of 80-lb. rail laid over level ground with only normal curves.

Use of the Diesel-electric locomotive has been necessary only three or four hours a day, six days a week. Since it was placed in use, it has been available for service 100 per cent of the time. Inspection, maintenance and refueling, which require an average of sixteen and a half hours per month, are performed by the engineman when the locomotive is idle. Time required for inspection and maintenance of the steam locomotive was approximately 52 hours per month, and for refueling, 26 hours per month. Total operating and maintenance costs of the Diesel-electric average about $5 a week. Operating and maintenance costs of the coal burning steam locomotive averaged approximately $60 per week.

Improved Escalator

The Otis Elevator Company, New York, has begun the manufacture of a new model escalator which, it is said, is designed to make moving stairways suitable for locations where they have not previously been considered economical. Reported as having a capacity of 5,000 persons per hour, this escalator is designed for a maximum rise of 23 ft. Its width—32 in. between hand rails—was adopted after an extensive study of the space requirements of persons carrying large bundles or luggage.

One of the principal advantages claimed for the new model is the use of light-weight structural and mechanical members compared with those used in the older models, which are heavily constructed for rises of as much as 60 ft. The saving in weight thus made possible is said to amount to approximately 25 per cent and, in consequence, reduces the load on the structural framework of the building in which it is installed.

Another feature claimed for the new model is that its operating machinery is built within the unit itself, rather than being housed in a separate machine room as is the case with the larger, heavier escalators. As in all escalators, the operating speed is 90 ft. per min. and the angle of incline 30 deg.

Standard equipment on the new model escalator includes Otis safety tread and comb plates, 180-deg. extended newels, extruded aluminum deck covers and moldings, and interior panels of porcelain enamel with plastic moldings. Other claims for the new model include quiet operation and the elimination of slack development in the hand rails.

Artist's conception of how the new escalator will appear when installed

"Rank and File" Fights Crosser Law

Convinced that this act is detrimental to employees, opponents get no chance to present their case to labor in union press

By HERBERT A. HAAS
Chairman, Employees Committee for Low Cost Retirement Benefits

[*This paper sees frequent accusations in the publications of the railway unions to the effect that rank-and-file railroad employees who oppose the Crosser Law are mere puppets, voicing not their own opinions, but those of railway management. We have not for a minute given credence to such charges, because we have received too much mail, obviously of spontaneous origin, from railroad employees themselves, providing conclusive evidence that intelligent employees do not need assistance from management to understand the disadvantages to them of this law.*

Now comes the author of this article, a fighter against the Crosser Law, asking for a chance to tell his story, which he would clearly not be given in the union press. We are glad to accommodate him. There are other groups of railroad employees in other sections of the country who are organizing against this law, and the only way these organizations can learn of each other's endeavors is through an independent journal, which has no objective other than the welfare of the industry as a whole.

We have inquired of the Pennsylvania Railroad regarding Mr. Haas and are advised that he is a former employee of that company. The railroad further asserts that neither Mr. Haas nor his associates—Messrs. Vogt, Burke and Finkel—have ever received any compensation from the railroad for time spent in working against the Crosser Law. Neither has the railroad paid any traveling or other expenses of these men in connection with their legislative efforts against the Crosser Law, as implied in reports published in the August 23 and October 18 issues of the paper, "Labor."

Railway people wishing to communicate with the author of this article may address him in care of his committee at 1186 Broadway, New York 1, N. Y. —EDITOR]

THE "Employees Committee for Low Cost Retirement Benefits," of which this writer is chairman, is an independent rank-and-file organization, formed to seek amendment of the so-called Crosser Law, because we have found out that, under this law, the railroad employee is taxed out of all proportion to the benefits he receives. We either ought to get bigger pensions for what we are paying or else pay less for the same pensions.

Railroad employees under the Crosser Law are taxed at 5¾ per cent of their wages, which tax by 1952 will rise to 6¼ per cent, in order to get retirement benefits at a maximum 40 per cent greater than those paid to industrial employees under the Social Security Act—but industrial employees are paying only a one per cent payroll tax for their pensions. The railroad employee is obviously being grossly overcharged for what he gets—and, not only that, but this injustice is being done to him at the insistence of the chiefs of the railway labor organizations, who will not even give employees who object to this treatment a chance for a fair hearing in the labor press.

Not Paid by the Railroad

We were not inspired by railroad management to start this anti-Crosser-Law fight, and we have received no assistance, financial or otherwise, from railroad management in furthering our efforts. Those of us who formed this committee got interested in the matter as employees of the Pennsylvania Railroad at Harsimus Cove in the Jersey City area last January, when Charles Cole, assistant yardmaster at Harsimus Cove, retired after 45 years' service. Employees at that point took up a collection to make him a gift presentation on his retirement. Inquiring into his circumstances, we were amazed to learn what a small pension he was going to get under the Crosser Law after all his years of faithful service. After discussing the matter at length, these employees in April of this year decided to form a committee to study the Crosser Law and to see what, if anything, could be done to amend it.

This committee elected the present writer (formerly head clerk at Harsimus Cove, but at liberty to exercise his seniority at the time because of a shift in local management personnel) as its chairman. Joseph Vogt, a qualified conductor working as a brakeman, was chosen as vice-chairman. Thomas F. Burke, freight conductor, was selected as secretary and treasurer. William H. Finkel, also a freight conductor, was designated as traveling recorder.

The committee and its officers pledged themselves to operate on a non-profit basis. They further pledged themselves to act faithfully at all times in behalf of the "rank and file" of railroad employees, turning over any contributions received, over and above the cost of their endeavors, to the Railroad Retirement Fund. It was agreed that no salaries were to be paid the committee except at such periods when they should devote their full time to the activities of the committee. Compensation for such full-time service would be commensurate with their last rate of pay for railroad work. It was also provided that they form sub-committees in various parts of the country to participate in their work; such sub-committees to be allowed, at a maximum, no more than expenses necessary to carry on their work.

Mr. Finkel was asked to go to various yards and other locations where railroad employees congregate and question them concerning their opinion of the Crosser Act; namely, whether they were satisfied with it as it is or whether they were of the opinion that it could be improved upon. During the period from April 14 through April 21, 1947, Mr. Finkel questioned some 700 railroad employees on the Pennsylvania, Central of New Jersey, Erie, Lackawanna, New Haven, Long Island, New York Central, Delaware & Hudson and New York, Susquehanna & Western. Of the 700 questioned 72 per cent believed the costs to be outrageous; 17 per cent were noncommittal, while only 6 percent were satisfied with the pension plan as set forth by the Crosser Act. The remaining 5 per cent said they did not know enough about it to voice an opinion.

Registered Lobbyists

An attorney, Herbert Zelenko, 1 Park Place, New York, was called upon for advice as to the procedure necessary for carrying on the work planned by the committee. He filed the necessary papers with the Senate and House in order to register the committee under the National Lobbying Act. It is to be noted at this point that the reverse side of the Senate and House of Representatives registration forms for lobbying clearly ask the registrant to state: (1) By whom he

is employed; (2) where he is employed; (3) in whose interest he appears in registering under the act.

The committee was fairly and accurately registered under the Lobbying Act, but the paper "Labor"—in reporting this registration in its August 23 and October 18 issues—conveyed the impression that this committee was employed by the Pennsylvania Railroad to do lobbying. This is not true. The lobbying that we do we do on our own time—not that of the railroad—and in our own behalf and that of all other railroad employees who agree with us in our desire to amend this unjust Crosser Law. We are not doing this work in behalf of the Pennsylvania Railroad or of any other railroad. All this was made perfectly clear in our registration, but "Labor" chose to misrepresent the facts. The writer protested this inaccuracy to the gentlemen who comprise the board in control of "Labor," asking for a retraction, but none has been printed. Railway employees would be in a bad way if they had no other source of information than the union press—which is not free, but is limited to publishing things the union chiefs want to see printed.

How the Law Was Passed

After registration under the Lobbying Act, the committee began a canvass of railroad employees for contributions to defray the expense of its work. We soon learned that local chairman of the railway unions had been advised by their chiefs to threaten union members if they should assist our committee in its efforts in behalf of low-cost pensions for railroad employees. The officers of this committee thereupon advanced $150 each out of their own pockets, as a loan, to enable the committee's work to go forward and to defray such expenses as office rent, telephone, postage and the like. The balance remaining from this advance was deposited in a well-known New York bank.

The officers of the committee then undertook a careful study of the original Railroad Retirement Act of 1937, in comparison with the newer Crosser Act. We also read all the testimony presented at congressional hearings prior to the passage of the Crosser Act. We consulted competent and experienced actuaries, and learned from them that one of the reasons for high costs to employees under the Crosser Act is that so many employees not actually in railroad work are included in its benefits, and also because the act covers immense numbers of employees who worked only a short time for the railroads, while regular employees were absent on military service. If these temporary employees were excluded, a great reduction could be made in the cost of pensions for bona fide permanent employees.

In our conversations with actuaries, it was pointed out to us that Murray Latimer, former head of the Railroad Retirement Board and the "father" of the Crosser Act, had testified that funds had run out before actuarial studies were completed of the costs of the benefits provided under the Crosser Act. What this means is that the Crosser Law was enacted before adequate actuarial data were available to show whether the benefits and payments were in conformity.

Our committee also learned that no rank-and-file railroad employee opinion was sought by railway labor executives before they put their political power behind this Crosser measure. We found out that, probably, this legislation would never have been enacted by Congress, if the members had known that railroad employees knew little or nothing about the provisions of the bill.

Our committee is operating as economically as it can. It has desk space in a small office, for which it pays a rental of $40 monthly. Contributions were slow in coming in at first and the officers were forced to dig down for a second time into their personal pockets for a further total advance of $200—but now the ball is rolling as more and more employees are learning about this activity and supporting it. More and more literature is being circulated among employees, as contributions are received to defray the cost of printing and postage. All we ask any employee to donate is $1—which seems a pretty small sum if, by helping to get this Crosser Law amended, the employee succeeds in saving himself from $50 to $80 a year in payroll taxes.

We now have the names and addresses of 60,000 railroad employees—largely supplied by other employees who are sufficiently interested in our work to provide us with these names. At the rate that financial support is now coming in, we should soon have enough funds on hand to send mailing of our literature to most of this number. Particularly encouraging have been requests we have received from groups of employees in various parts of the country who wish to organize subcommittees, to collaborate with us in our efforts to amend the Crosser Law in the interest of low-cost pensions.

In order to be authorized to solicit funds in New York City, this committee had to get a permit from the municipal Welfare Department. The department made an investigation of the personal background of the officers of this committee and examined the Railroad Retirement Act of 1937 and the Crosser Act, after which the permit to solicit funds was unhesitatingly issued to us.

Sixty-foot L. C. L. Cars for the Pennsylvania

The first of 100 new special-device merchandise cars built by the Pennsylvania at its Altoona (Pa.) shops is pictured above. The use of these extra length cars in less-carload service is made possible by built-in gates and shelves (described in *Railway Age* of October 18, page 58) which prevent shifting and crushing damage to lading. The cars are able to carry more than double the average loading in merchandise service. They have an inside length of 60 ft. 6 in., i.e., one third longer than the standard box car, and a capacity of 50 tons.

Three hundred other cars, 50 ft. 6 in. long, have also been fitted with the devices.

The committee also filed reports of its plans and purposes with the Better Business Bureau of the City of New York and the Commerce and Industry Association. What more conclusive evidence the committee could offer of its good faith and honest purposes, the writer does not know.

It has come to our attention that some union leaders who are seeking to defend the Crosser Law are telling employees that railroad pension taxes are high on account of larger benefits under the Unemployment Insurance Act, including sickness and maternity benefits. This contention is false—because railroad employees do not pay a cent toward the unemployment fund. This is raised entirely by a three per cent payroll tax on the railroads. It is entirely separate from the pension fund. Our committee has taken no position on the unemployment tax, because we are strictly an employees' organization.

Railroad employees ought to know, however, that the railroads are being taxed two or three times as much as any other American industry—for unemployment insurance. The tax rate of three per cent seems to be much higher than necessary, because the railroad unemployment insurance fund has been piling up until it totals about $900 million. To take more money away from the railroads than is necessary to cover the cost of unemployment insurance just means that much less money left to the railroads which they could use for improvements and to hire more labor. A steady job on a railroad is a lot better "unemployment insurance" to a railroad employee than a mere 26 weeks of living on unemployment relief.

While — to repeat — our committee takes no stand on the subject of unemployment insurance, we still think that jobs are more plentiful and more secure and wages are apt to be better when an employer is allowed to earn a reasonable profit instead of paying out almost all he earns in taxes. An employee who receives a pay check is still better off than one who receives a relief check.

In addition to the criticisms of the Crosser Law which have already been enumerated, and which we can prove, our committee would like to ask a few questions of those who seek to defend this law:

(a) Didn't the average regular employee have trust funds or estates that amounted to from $300 to $1,400 under the Railroad Retirement Act of 1937, and weren't these trust funds or estates taken away from him as a result of the Crosser Act?

(b) Isn't it true that the average employee earning $300 a month will have an amount of $21,900 due him after 30 years of service—and is it not also true that he will have only one chance in 100 of collecting this amount, and that, in order to do so, he will have to live until he is 77½ years of age?

(c) Isn't it true, according to the figures of the U. S. Census, that 92 employees out of every 100 will not live to see their 65th birthday? And, if all 100 are married, is it not posible that only 12 of 100 wives will live to collect some of the money which the employee and his employer have paid into the pension fund?

(d) Isn't it true, if an employee passes away and has no dependent children and his wife is under 65, that all she will get is between $250 and $530—hardly enough to bury the deceased?

(e) Isn't it true that the disability, annuity, death or survivor benefits of the Crosser Act work in complete reversal of the usual type of insurance plan and of the previous Railroad Retirement Plan—i.e., doesn't the Crosser Act fix it so that the longer a man works and the more he pays in, the less he will get?

(f) Haven't the railway labor executives received thousands of letters of protest from their own members relative to the outrageous costs of the Crosser Act?

(g) Isn't it probable beyond all doubt that, if the union leaders were acting solely in behalf of their members, they would reply to every reasonable question raised about the Crosser Act and not try to stifle criticism by starting a smear campaign against those whose only offense is that they are trying to promote employee welfare?

(h) Isn't it true that the Employees Committee for Low Cost Retirement Benefits on September 5 wrote each member of the Railway Labor Executives Association to the effect that our employees' group would welcome an investigation by an impartial body such as a committee of Congress?

Our purpose is not to criticise the railway labor leaders or anybody else, but to make sure that railway employees are getting their money's worth in pensions for the taxes they have to pay for that purpose. We have studied the matter enough to be convinced that they are not getting their money's worth. If the officers of the railway unions refuse to protect the interests of railroad employees in such a vital matter, all we ask of them is that, at least, they refrain from obstructing the efforts of those who are honestly trying to do this necessary job in the employees' behalf.

* * *

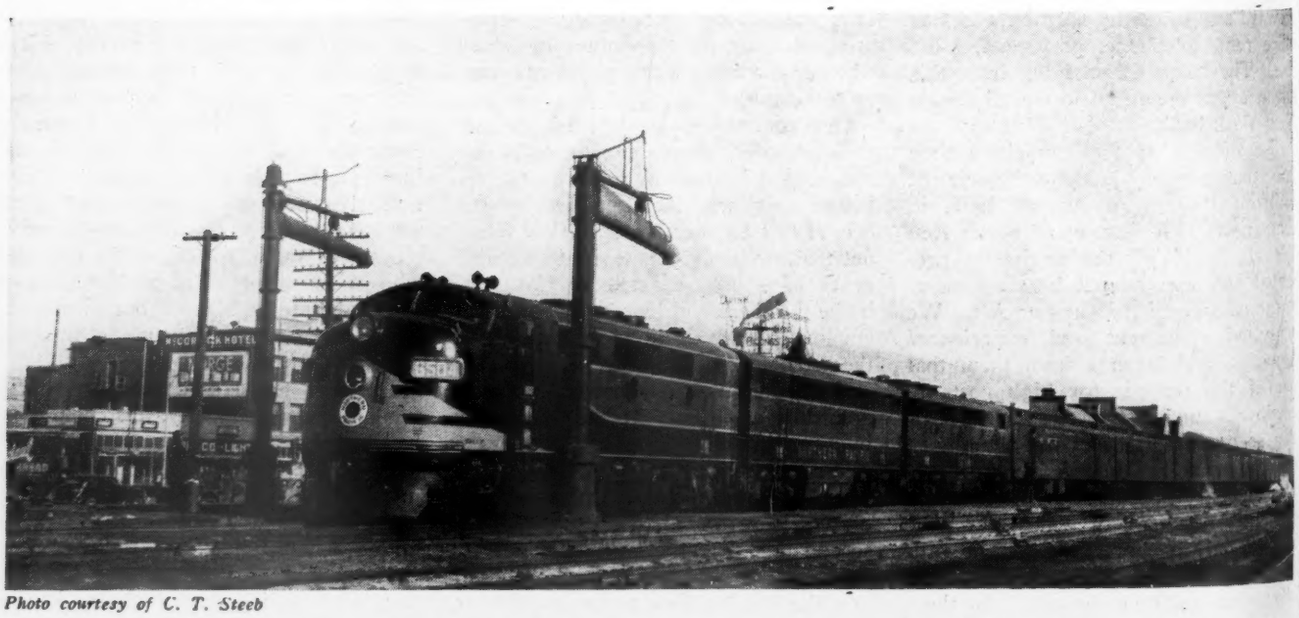


Photo courtesy of C. T. Steeb

The Northern Pacific's westbound "Alaskan" stops at the Billings, Mont., depot

A Yardstick for Public Relations Performance

By JAMES S. TWOHEY
James S. Twohey Associates
Washington, D. C.

MORE dependable progress can usually be made in solving administrative and managerial problems if the facts to be dealt with can be expressed in quantities and, thus, be handled scientifically rather than by reliance upon "hunches" and intuition. Some of the most successful business leaders—including many of the "geniuses"—have been those who did very little systematic analysis, but who acted on inner motives which they themselves could not explain. Reliance upon the insights of genius for the successful direction of the affairs of a business is, however, unsatisfactory as a permanent policy. Most companies are not fortunate enough to be able to find geniuses to fill all their important managerial jobs, and, if this were possible, there is no known way by which a genius can pass along his powers of intuition to his successor.

Whenever intuitive powers of sufficient accuracy and intensity are available to a business, they should, of course, be used to the full. But, where such faculties are in short supply, and in order to replace them if they should vanish, the accumulation and analysis of quantitative data affords an alternative—which, although its results may be less spectacular than those attributable to genius, is usually more dependable and pervades a wider area.

Geniuses Are Scarce

These observations apply to problems of public relations, as well as to other aspects of managerial responsibility. Public relations work has always had its infrequent geniuses—but only recently has it begun to develop objective, quantitative information, which can be analyzed and put to effective work by ordinary individuals. Scientific opinion polling has been one of the great developments leading to more dependably effective public relations. A public relations officer no longer has to guess what the views of the public are on various questions. He can now find out definitely, with no doubts as to the dependability of the findings. Another parallel and equally helpful technique, with the development of which the present writer has been actively connected, is that of measuring the development of public opinion, not after it has already taken place but while it is still in process.

This method is that of the scientific analysis of the press. The study of newspapers shows, for instance, that the railroads made greater progress last June than the air lines did; that both railroads and air lines fared about equally well in July; but that the air lines pulled ahead in August. These comparisons are shown graphically in an accompanying chart.

The assembly of press clippings on special topics of interest is probably nearly as old as the press itself. But this assembly in an orderly fashion so that the true weight and impact of various stories may be estimated is a relatively new procedure. The value of such analysis in the case of the railroads may be quickly understood when it is realized that in August, 1947, every major newspaper carried an average of one-and-a-half stories a day on the railroads.

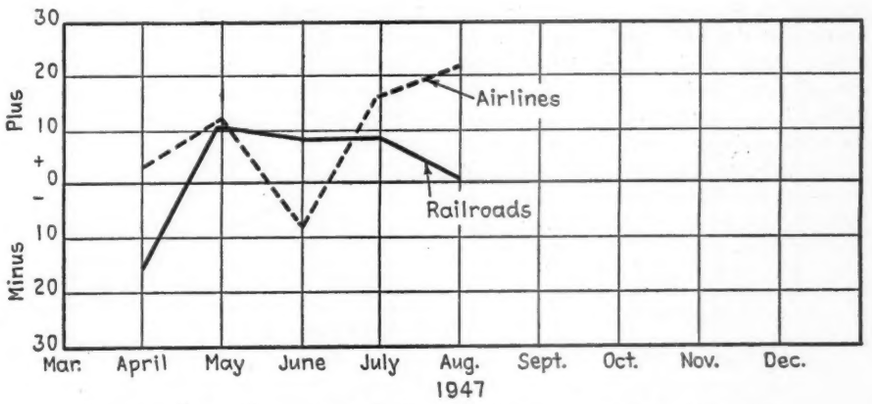
Press opinions and stories are not always, to be sure, true reflectors of general public opinion; but in general they coincide with public opinion, and they provide a faster and more sensitive reaction than has yet been achieved by most polling methods. Press opinion may be likened to the hunting dog which ranges to and fro in search of game, while the hunter—here likened to the public—pursues a steadier course, sometimes guided by the dog, sometimes guiding.

The variety and discursiveness in the press call for careful scrutiny of results and careful interpretation. At first thought it might seem that favorable "human interest" stories always would reflect beneficially on the corporation connected with them. In August, for example, a waiter helped avert a wreck; a little boy received a dog as a gift from the road whose train had killed his dog. However, only the latter story was so treated as to reflect in a highly favorable manner on the railroad in the bulk of newspapers.

In the case of the waiter, so much emphasis was placed on the accident and explanation of causes, that the heroic waiter tended to be obscured. Insofar as impact on public opinion was concerned, the effect of the latter story thus appeared to be neutral.

To Get a "Good Press"

Again, something might be learned from the play of personalities in controversy on railroad questions. It would seem that affirmative action on the part of a road brings the best press. This idea is carried out by the favorable treatment given the railroad presidents who spoke out on the wage issue. It is further supported by the uniformly favorable treatment given to the announcement of new equipment orders.



Comparative rating of railroads and air lines in newspaper space

An attack, of course, usually gets more attention than the reply to the attack.

But many puzzles still remain. Why, for instance, should one railroad get consistently prominent and favorable mention for its various personnel change announcements, while other roads get minor mention for such items? This may be a regional peculiarity, it may reflect good press agentry, it may be something else.

Press analysis, like public opinion polling, is a study with many questions still unanswered. Just as public opinion surveying came out of the "straw vote"

(Continued on page 67)

Plea Submitted in Ex Parte 166 for 30 Per Cent increase

I.C.C. gets supplemental Ex Parte 166 petition to cover op wage awards by adding another 3 per cent to the previously-proposed advance of 27 per cent

ACTING "to offset rising costs resulting from higher wages and rules changes for operating employees," the railroads this week modified their Ex Parte 166 freight-rate application to make it a plea for permanent increases averaging 30 per cent overall. Any permanent adjustment authorized in the proceeding would supplant the interim increases averaging 8.9 per cent which became effective October 13, and thus the modified permanent proposal as set out herein would be applied to the basic rate structure after removal therefrom of that emergency-relief advance.

The carriers had previously asked permanent increases averaging 27 per cent and the supplemental petition was filed with the Interstate Commerce Commission on December 3, five days before the scheduled opening on December 8 of the final Washington, D. C., hearing on the earlier proposal. It estimates that the additional 3 per cent increase would yield about $164,700,000 annually on the basis of expected 1948 traffic. Latest estimates with respect to the previously-proposed 27 per cent advance indicate that it would yield approximately $1,846,000,000. Thus the modified proposal is calculated to produce a total of some $2,010,700,000 in additional annual revenue.

How Proposal Grew

The original application, filed July 3, sought permanent increases averaging 17 per cent. This was boosted to 27 per cent by a previous supplemental petition, filed September 5 after the arbitration board had awarded nonoperating railroad employees a wage increase of 15½ cents per hour. As indicated above, the additional increase now proposed is based on the like wage award and working-rules changes recently granted to operating employees. The Brotherhood of Railroad Trainmen and the Order of Railway Conductors are the only op unions which have settled on that basis; but the petition anticipates a similar settlement with the three hold-out unions—the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen & Enginemen, and the Switchmen's Union of North America.

The annual cost of the settlement with the B. of R. T. and O. R. C. is put at $96,350,000, including payroll taxes. The cost of a like settlement with the three hold-out unions is put at $68,350,000 per year. The carriers, as the petition puts it, "have been unable and will continue to be unable to effect economies or savings to offset such increased operating costs."

With various exceptions where maximum increases per 100 lb. or per ton would be specified, the permanent increases now sought would be 41 per cent within Eastern territory and inter-territorially between that territory and other territories and 31 per cent within and between Southern and Western territories. The original application had sought respective increases of 25 per cent and 15 per cent, while the September 5 modification boosted those figures to 38 per cent and 28 per cent, respectively. The commodities given exceptional treatment have remained the same, but the present petition seeks greater maximum increases on the excepted traffic.

Excepted Commodities

Among these commodities is bituminous coal, on which the increase now proposed would be 30 cents per net ton or 34 cents per gross ton, except that increases of 40 cents and 45 cents, respectively, would apply on tidewater coal for transshipment as cargo or bunker coal to foreign countries (except Canada and Mexico) and to the Panama Canal Zone and insular possessions of the United States.

The increase on anthracite coal would be 20 cents per net ton or 22 cents per gross ton where present rates are 75 cents or less per net ton and 84 cents or less per gross ton; 35 cents per net ton or 39 cents per gross ton where present rates are from 76 cents per net ton or 85 cents per gross ton to and including $1.50 per net ton or $1.68 per gross ton; and 50 cents per net ton or 56 cents per gross ton where present rates are over $1.50 per net ton or $1.68 per gross ton. Excepted from this graduated scale would be rail-lake-rail anthracite and tidewater anthracite moving rail-water-rail to New England destinations, both of which would take increases of 50 cents per net ton or 56 cents per gross ton.

The increases on coke would be the same as those on anthracite coal, while lignite coal and lignite coal briquettes would take 30 cents per net ton. The increase on iron ore would be 30 cents per ton, net or gross as rated. Other exceptions, where the general percentage increases would be limited by specified maxima, include:

Cotton in bales, maximum 11 cents per 100 lb.; fresh fruits and fresh or green vegetables, 22 cents per 100 lb.; sand (foundry, glass, molding, etc.), maximum 66 cents per net ton but not less than 33 cents per net ton; sand and gravel, NOIBN, maximum 33 cents per net ton; petroleum and petroleum products and pitch tar in tank cars, maximum 10 cents per 100 lb.; salt, maximum 3 cents per 100 lb.; logs, pulpwood and fuel wood, maximum 13 cents per 100 lb.; building woodwork and millwork, lumber and articles taking the same rates, wooden posts, poles and piling, ties and woodpulp, maximum 20 cents per 100 lb.; iron and steel articles, maximum 11 cents per 100 lb. but not in excess of $2.20 per ton, net or gross as rated; cement, lime and plaster, maximum 10 cents per 100 lb.; sugar, maximum 20 cents per 100 lb.

Accessorial Services

The general 41 and 31 per cent increases would be applied to milk and cream in passenger or freight services, while a 41 per cent increase in all territories would be applied to charges for protective service, c.o.d. services, diversion or reconsignment, and stopping in transit to complete loading or partly unload. Increases in switching charges would vary from 18 to 41 per cent; handling charges on iron ore at the lower lake ports would go up 18 per cent, but there would be no increase in charges for storing ore at those ports.

The minimum rate on shipments eligible for pick-up and delivery services would be increased to 75 cents, but there would be no increase in allowances made by carriers for drayage or other services performed by shippers. In these respects the December 3 petition makes no changes in the proposals of the September 5 petition. Likewise unchanged is the proposal to increase to 8 cents per 100 lb. the charges for loading or unloading as provided in section 2 of Classification Rule 15.

Meanwhile, there would be no increase in charges for loading or unloading livestock, nor in wharfage, handling and tippling charges applicable at South Atlantic and Gulf of Mexico ports. All-

commodity rates would take the general per centage increases, as would freight in truck bodies or trailers on flat cars. No increase in demurrage charges is proposed.

"The increases proposed herein," the December 3 petition says, "follow the same pattern and are only slightly in excess of those set forth in petitioners' supplemental petition of September 5, and, therefore, the evidence received to date at the hearings assigned in this proceeding may properly be considered as applying equally to the supplemental and amended proposal set forth herein. Petitioners' proposal herein is designed for the same purpose as that of their original petition of July 3, i.e., to produce revenues sufficient to cover their increased costs of operation and to enable them to continue to provide adequate and efficient transportation services as contemplated by the National Transportation Policy and the provisions of the Interstate Commerce Act."

"Freedom Train" Is Landmark

(*Continued from page 57*)

ture in the car rises abnormally fast. The detectors are located behind the panels lining the walls of the cars. If fire breaks out, these fire watchdogs set off an alarm gong and at the same time release gas from the tanks. A new feature, a shut-off valve in the piping, holds the gas in the pipes until a train guard releases this valve and discharges the gas. This gives the occupants time to leave the car before it is filled with fire-smothering carbon dioxide.

Included in the fire protection system are pressure switches which automatically shut off ventilating fans to prevent dissipation of carbon dioxide. Discharged as a white cloud from ten multijet nozzles located behind display cases, the carbon dioxide expands to 450 times its stored volume and lowers the air's normal oxygen content from 21 to around 15 per cent with the result that the flames are "starved" out. The three-dimensional nature of the gas makes penetration complete, while its harmless effect on the documents makes carbon dioxide a natural extinguishing agent for the train.

The equipment car, which carries all the generators and air-cooling motors of the train, is protected by a similar system, with the exception of the shut-off valve. Four 100-lb. cylinders supply the system which is set off by four fire detectors located on the ceiling. At the outbreak of fire the fans are automatically shut off and gas floods the entire car. Multijet nozzles on the ceiling, as in the display cars, were especially designed by fire protection engineers to provide for a more effective distribution of gas. A hose reel with a 100-lb. carbon dioxide cylinder supplements the automatic system.

As the "Freedom Train" travels on its 33,000-mile tour, it is fully protected against almost every contingency except an air raid or total immersion. (As for the remote possibility of total immersion in water, experts in document preservation have said that there would probably be no damage unless the train were not rescued within two weeks and the documents themselves were exposed to running water.) The train is equipped with special signaling lights and a blue flag protects it against switching movements while on display.

A Yardstick for Public Relations

(*Continued from page 65*)

and "roving reporter" stage into the use of scientific samples and carefully controlled questions, so press clipping is coming out of the stage of scrapbooks and random quotations into the stage of standard procedure.

Analysis of this sort does not make public relations a science rather than an art, but it does take a good deal of the guesswork out of the appraisal of immediate results. There will never be any substitute for the "inspired" performance of lively imagination—but quantitative analysis of results permits the application of the ideas of genius to situations where no genius is available. It also affords a dependable check by which the really talented performance may be distinguished from that which merely seems so.

COMMUNICATIONS . . .

A Paradox Analyzed— Buses vs. Railroads

East Orange, N. J.

To the Editor:

My travel experiences during the past 16 months in the South have revealed a seeming paradox in railroad and bus travel. I have spent almost every Saturday and Sunday of that interval in traveling as intensively and extensively as possible, primarily by rail, but occasionally by bus. My analysis of the paradox is thus derived from my own experiences.

In general, bus schedules are not anywhere as near reliable as those of trains. Even the "express buses" do not maintain their schedules as well as one could reasonably expect. To the contrary, I can think of only a very few trains within 250 miles of Greensboro, N. C., which are poor performers, and these are well-known to railroad men, who warn prospective passengers. I have waited as long as six hours for a bus, although both schedules and dispatchers assured me of three trips within the interval. I have never been able to discover what happened to those, and other, buses which never showed up. This has never happened to me on any of my recent 100,000 miles of rail travel. During weekends, it is not uncommon for trips to be delayed several hours at their origins, due to a lack of drivers, the passengers, meanwhile, being wheedled half-hourly into "another half-hour delay." This too has never occurred to me on a railroad, although on a one train per day, secondary line, we were delayed 30 min. because no one called the engineer.

System bus schedules are most difficult to acquire, while railroads are quite free with theirs. Bus schedules have been altered without any visible notice, although some lines do advertise the fact in local papers. I can't recall a railroad station of any consequence which didn't have all of the train schedules posted, but I have yet to see a schedule change notice in the papers.

In six years of railroad travel, including much on heavy traffic lines, I have had to stand but once, because I was foolish enough to board a long-distance train at a suburban station. But, I expect to stand on buses, especially on weekends, or on heavily traveled routes. And you can imagine the disappointment of those passengers who can't be taken aboard an already overcrowded bus. To get a seat one must stand in the proximity of the door for almost an hour, and then become part of a general melee when the bus arrives. I have seen one 34-seat bus disgorge 80 passengers, then take on 64. I have not yet even heard of someone not being able to board a train, nor to be subject to gross overcrowding, except on certain commuter trains. The handling of local passengers, sometimes from crossroad to crossroad, makes many buses but little better than a street-car, without any of the latter's advantages. So far, it has been impossible for me to ascertain the probable arrival of a late bus, while railroads do divulge this information with reasonable accuracy.

One cannot count on much more than sandwiches at "meal stops" on long bus runs, yet I have done fairly well on the rails. Three roads have arrangements for the serving of a hot meal, which is placed on board in disposable containers at a suitable stop, and four others will arrange for a box-lunch. Four lines have meal stops, with sufficient time to eat in an adjacent cafe. Some bus terminals are indeed most excellent, as are many railroad stations, but I will bet that the city paid for the one used by the buses. There are many railroad stations which are unkempt, but they are in general reasonably clean. They are completely outnumbered though by the vast number of unbelieveably filthy and inadequate bus depots. If I have to wait for a bus, for lack of rail transportation, I will wait at the railroad station.

What illusions I have held on the speed of buses and on their fares have been well

shattered. For instance the fares between Greensboro, N.C., and Raleigh, a heavily traveled route with 25 bus trips each way and 3 train trips each way, are $1.73 (one way) and $3.11 (round trip) by bus, and only $1.55 and $2.82 by train. The bus takes 130 minutes for the express runs and 165 minutes for the others. The train takes 155 minutes. On one trip I left Seneca, Ga., four hours ahead of Southern No. 40, without checking the bus schedule to be sure that it was faster than the train. My consternation was complete when No. 40 passed us at Thomasville, N.C., and I arrived in Burlington, N.C., almost two hours after No. 40's connection had arrived! I believe that it is obvious that I stay as far from buses as possible, because I can rely only upon the train to take me to my destination at the fastest possible speed, usually in air-conditioned comfort, and pretty close to the scheduled performance. I don't like the hard-backed coach seats in trains, but at least I can walk around, in comparison to the upholstered strait-jacket which is used for a bus seat.

Paradox Analyzed

Here, then, is the paradox. Why do people patronize such bus transportation as I have outlined above, while forsaking greatly superior train service—superior in quality, rather than quantity? I know of one reason, because I, strangely enough, fell a victim to it. The reason is extensive, local advertising of bus service and schedules. Bus advertising leads one to believe, besides their being the only means of transportation in the town, that their accommodations are superior to trains, and that they are cheaper and faster. Bus terminals are pictured as magnificent edifices, with fine restaurants and other appointments of equal decor. Right now bus advertising is instilling in the minds of the traveling public that *buses only* can take him to America's scenic wonders.

I have talked with many people to find the cause of this paradox, and I lay it at the door of ignorance, on the part of travelers, of what the railroad has to sell. They know nothing of local train services, fares or schedules. And the reason that they don't know is that the railroad never told them! The traveler has read the advertisements about the "Flanged Wheel," the "Cost of a Train" and the "32 Track Mind," all superb institutional advertisements, but he still doesn't know what trains go through his town, so he rides on the bus. Poor soul, he knows that the railroads must be a wonderful means of transportation, but to find out how he can use it, he has to *go to* the railroad, while the bus lines *come to* him. With the bus lines running daily items in the local papers, he forgets all about the railroads. Too many people are ignorant and lazy about travel, and the buses are capitalizing on those traits. The answer, as I see it, is advertising. If it sells quack medicines of dubious value, why can't it sell passenger-miles on trains other than the hot-shots?

My reputation as an "amateur travel expert" is fairly well established among those who work with me. My amazement at their thoughts about railroad travel, especially their abysmal ignorance of it, is unending, yet most of them have been through college. By advising them of the facts, I have sent to the railroads considerable traffic, which otherwise would have gone to the private automobile, bus or airplane. For instance, last Christmas Eve, everyone with air line reservations from Greensboro to New York was grounded, because of a severe local storm, and about twenty anxious men came to me at noon, after the traffic department in the plant had given up trying to get them on sleepers or a de luxe coach train. I got them all home by Christmas morning, either by sleeper from Roanoke on the N. & W., via Hagerstown, Md., or Lynchburg, Va. Some managed to come up on the S.A.L. from Raleigh, or by N.&W. out of Durham, N.C. None of them had ever heard that such services were available. The railroads made enough money from those trips to pay for a lot of advertising in the local papers, which would have netted them more business than I gave to them.

Railroads have so much to offer in every aspect of travel, that it hurts me to see intelligent people, though uninformed, forsake them for an inferior service at a higher price, higher not only in money, but also in all of the other ways which contribute to a satisfactory trip. Sometimes, I even despair, because I can tell so few people about railroad service, when there are so many who should hear. Railroad advertising would be a big help.

ROBERT A. LEMASSENA, M.E.

"To Those Who Supervise"

GREENVILLE, PA.

TO THE EDITOR:

Just a word to tell you how much I enjoyed and profited by the editorial in *Railway Age* for October 11, entitled "To Those Who Supervise." I know you will be interested to hear that the attention of all our supervisory staff has been called to this editorial. As far as I know there is nothing that can be more worthwhile to emphasize at the present time than the words of advice contained in this editorial. My own observation is that, while there has been a marked drop in the efficiency of those we supervise, there has also been, running parallel with this, too much of a spirit of defeat on the part of those who supervise.

F. R. LAYNG
Vice President and Chief Engineer
Bessemer & Lake Erie

Rigidized Metal

Two products applicable to railroad passenger car installation are manufactured by the Rigid-Tex Corporation, 658 Ohio street, Buffalo 3, N. Y. Both developments employ "rigidized" metal, which may consist of either ferrous or non-ferrous metal formed into a geometric pattern to provide rigidity.

Sun shades, manufactured by the rigidizing process, consist of a single flexible sheet of stainless steel perforated with a geometric pattern. The sheet is then rigidized which supplies a decorative effect that creates an im-

Kick plates made of "rigidized" metal

pression of woven texture. The process also creates rigidity said to be equal in all directions, thus permitting the use of light-gage sheets without buckling and providing sufficient stiffness to permit operation of the shade without additional braces or a special track.

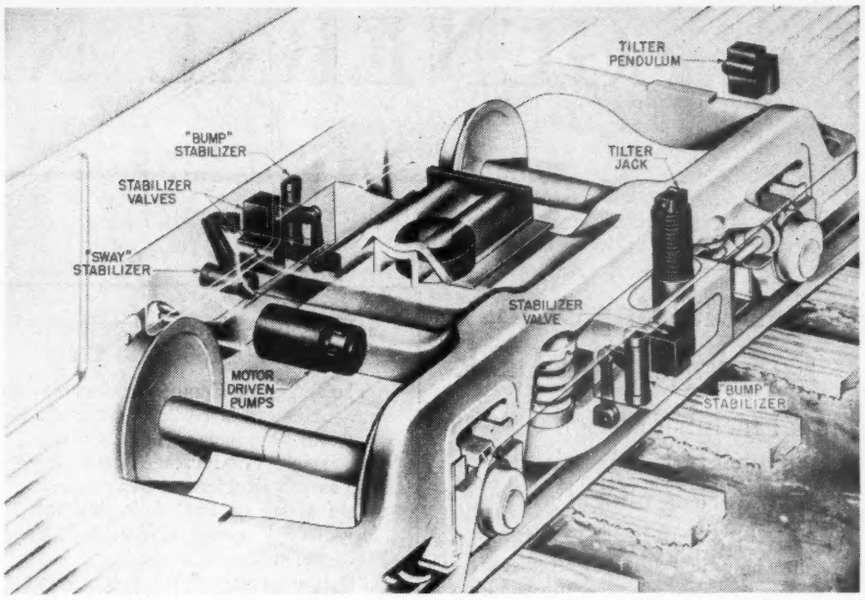
The combination of indenting and perforating creates a pattern which alters the positions of the perforated slots so that direct sunlight does not penetrate inward although outward visibility is possible when the eye is within a foot or two of the shade.

A second application of rigidized metal is to the kick plates around the foot rests of coach seats. In this application the metal is rigidized but not perforated. The purpose of the rigidizing process in this case is to supply an anti-glare, anti-scuff surface to ease eye strain and to reduce wear on seat backs. The pattern imparted also serves to furnish greater unsupported strength than plain sheets, permitting the use of lighter gages with a consequent saving in weight. The kick plates are available in several textures for various decorative treatments.

Window shades made of "rigidized" metal applied to a bus

Stabilizer for Passenger Cars

An "educated shock absorber" that irons out the bumps in railroad tracks or highways has been developed by the Westinghouse Electric Corporation to give train and bus travelers smoother rides. The stabilizer is designed to eliminate more than 60 per cent of the bumps and sway caused by irregularities in tracks or roads, and to enable trains to take curves at more than 25 per cent greater speeds. It is now being road-tested by a railroad.



Phantom drawing showing how the stabilizer can be installed on a railroad car

Floating weights that "feel" up-and-down and sideway motion, and a pendulum that senses the pull of centrifugal force and gravity, working together or separately, detect and respond to bumps or side-sway in three one-thousandths of a second. They anticipate the movement and modify it before it is felt by the train or bus passengers.

The stabilizer automatically moves the car trucks or bus wheels up and down to compensate for bumps in the road surface. Train wheels are moved from side to side to correct for track weaving. A tilter banks the car or bus body as it rounds a curve. As applied on a railroad car, this is done by six hydraulic cylinders and a pair of motor-driven screw-jacks. Four cylinders take care of vertical bumps and two of side-sway.

When the car comes to a bump or dip in the track, the floating weight instantly senses the motion of the body as it begins. The movement opens one valve and closes another, causing oil under high pressure to flow into the proper cylinder. The piston in the cylinder moves with just enough force in the right direction to counteract the bump and hold the car body virtually motionless. The same type of action moves the wheels right or left to correct for side-sway and the car body moves forward in a straight line. Flow of oil for the hydraulic system is maintained by motor-driven pumps.

When the train enters a curve, the gyro-controlled pendulum regulates two electrically-driven screw jacks placed at diagonal ends of the car body. If the speed is not quite right for the bank of the track, centrifugal force swings the pendulum. This closes an electrical contact to operate the two jacks which immediately tilt the car body to the correct bank angle.

The tile mechanism can add up to six degrees of additional bank in either direction within two seconds. When going around a curve at a theoretical 40 per cent overspeed, the tilter can bank the car to within one degree of perfect equilibrium. The permissible speed on curves depends on the design of the car or locomotive and on track superelevation, but the tilter will make possible 25 per cent overspeed without passenger discomfort. Going around a curve even at high speed, the passengers should be able to stroll down the aisles without difficulty. When the train comes to a standstill on banked curves, the car body will be held level.

It is clearly our obligation to do all within our power to strengthen the railroads by helping them win the living wage to which they are so justly entitled. The railroads must be enabled to take advantage of the improvements which will come from the engineers' drafting boards. If money isn't in the till, they cannot buy new and better cars. On their strength depends our domestic welfare, our national security and a better and richer life for us all.

—S. M. Felton, president of the American Railway Car Institute.

GENERAL NEWS

A. A. R. Meeting Scans Earnings, Car Lack

Annual member session assures car orders to absorb all materials allocated

The freight car supply, the need for increased earnings and the record traffic offerings which the roads are currently handling constituted the major items of discussion on the agenda of the member road meeting of the Association of American Railroads held in Chicago on November 21. Col. J. Monroe Johnson, director of the Office of Defense Transportation, appeared at the close of the meeting and paintel a candid picture of the freight car situation, in which he told the railroad presidents that, starting with January rollings, steel manufacturers will voluntarily increase allocations of steel for railroad car builders from the present rate of 150,000 tons a month to 166,000 tons, and allocations for repairs and M. R. O. from the present 59,000 tons to 86,000.

The board of directors re-elected existing officers of the association for the coming year and, in addition (as reported in *Railway Age* of November 29, page 53) created a department of public relations, with Col. Robert S. Henry, assistant to the president, as new vice-president in charge.

F. J. Gavin, president of the Great Northern, and Paul J. Neff, chief executive officer of the Missouri Pacific, were elected directors of the association, succeeding Ralph Budd, president of the Burlington Lines, and W. G. Vollmer, president of the Texas & Pacific, respectively, both of whom retired from membership on the board. Although, as is customary, the press was not admitted to the meeting, Colonel Johnson, A. A. R. President William T. Faricy and Colonel Henry met with newsmen at luncheon and reviewed the major developments in the national railroad picture.

More Steel Coming—On this occasion, Colonel Johnson pointed out that the increased allocation of steel for new railroad freight cars which the Iron & Steel Institute promises to make available on a voluntary basis is for the principal purpose of filling a deficiency in the tonnage furnished per car. Experience has demonstrated that on the average more steel is required for a new car than the 15 tons on which the current allocation is based. Open-top cars require on the average as high as 18 tons of steel apiece, he said. The increase in monthly supply for new cars to 166,000 tons will accord the builders an average of 16.6 tons per car for 10,000 cars a month. The promised increase in steel for heavy and M. R. O. repairs is expected to make it possible for shops to turn out 3,000 more rebuilt cars each month.

In connection with car output, Mr. Faricy pointed out that railroad shops—which have a rated capacity of about 1,500 cars a month—are now producing at the rate of 2,200 cars, and may do better when increased steel is available. Regarding a statement by the O. D. T. chief that even if total output reaches 10,000 new cars a month (with a gain over attrition of 3,000 cars) the railroads would never "catch up" with freight offerings at the current level, Mr. Faricy commented that the situation was more optimistic than would appear at first glance because the new cars have greater capacity and are more reliable than cars being junked. "The ones we are junking *are* junk," he declared. Mr. Faricy expressed the opinion that the car situation will be greatly eased a year hence, with which Colonel Johnson agreed—"with reservations."

It was explained that, in accordance with a recommendation of the Harriman report; the White House (as reported in *Railway Age* of November 29, page 52) has directed the O. D. T. to take steps to obtain enough steel for car builders to turn out at least 14,000 new freight cars a month by July. Acting on this authority, Colonel Johnson obtained new commitments from the Iron & Steel Institute which will assure greater allocation per car by the end of January rollings. He foresees production of 14,000 or 15,000 cars a month by next summer, which will "lick the car shortage." Describing this development is the "first glimmer of hope in four or five years," he said he had been assured by the A. A. R. that

(*Continued on page 73*)

Will Rush Oral Argument in Ex Parte 166 Rate Case

The Interstate Commerce Commission announced last week that it will hear oral argument in the Ex Parte 166 freight-rate-increase case "as soon as practicable, and in any event within a day or two, following the close of final hearing at Washington, D.C., which begins December 8."

"It is imperative," the notice continued, "that the time of the commission and of the parties be conserved and counsel having common interests are urged to arrange, so far as practicable, to consolidate their presentation of arguments. Memoranda supplementing or in lieu of oral argument may be filed on or before December 15."

10,000 Cars Monthly Seen Early in '48

Great opportunity for railroad progress in building new type car, says Felton

There is every reason to believe that freight car production in December will be good and that during the early months of 1948 the much-discussed goal of 10,000 cars a month will be attained, S. M. Felton, president of the American Railway Car Institute, said in Atlantic City, N. J., on December 4. In an address prepared for delivery at the annual meeting of the American Society of Mechanical Engineers, Mr. Felton described the primary factors in a sustained high rate of freight car building as substantial inventories of lumber and steel in balanced car sets, and, most important, a sizable backlog of car orders, assembly lines wholly reconverted from war production and freedom from labor difficulties.

Better Cars to Come—"I am of the firm belief that the railroads' greatest single opportunity of advancement rests with the ability of all of us to design and build a better car," Mr. Felton said, although he warned his audience not to lose sight of the fact that the country's multi-billion dollar railroad plants are keyed very largely to present-day freight car design. This new car, he continued, may be a better car at the same price the railroads pay today. It may be a better car costing considerably more, but with every dollar of added investment as fully justified as the extra dollars invested in Diesel motive power and streamlined passenger cars. Or, thirdly, it may be a drastically less expensive car with a shorter life expectancy so as to enable us to take advantage of technical improvements as they mature. The new cars should, however, be highly susceptible to mass production, with specifications written so as to encourage volume purchasing and volume use.

"If we are to be objective and realistic," Mr. Felton added, "I think we should begin by weeding out the radical and revolutionary procedures that we all like to consider on accasion and which the pseudo-science magazines are always eager to project as a part of tomorrow's picture. My belief is that our present thinking should be guided and disciplined by these six questions: 1. What can we do to eliminate or at least reduce pre-packing requirements? 2. What can we do to eliminate or reduce loss or damage claims? 3. What can we do to pare down costs incident to the re-handling and re-stowing of freight? 4. What can we do

to reduce the amount of unproductive dead weight in the freight car? 5. What can we do to reduce freight car maintenance charges? 6. And this is extremely important—what can we do to reduce the initial and overall costs of freight car ownership?"

Considerable attention should be devoted to the reduction of tare weight through the substitution of lightweight structural materials, he went on. "It is entirely possible to replace 27,000 pounds of structural steel in a 50-ton box car with 20,000 pounds of alloy steel, and the cost of this substitution should not far exceed $100. That represents a weight saving of 3½ tons. In a 50-ton hopper car, at a cost of somewhere around $200,, one can replace 31,500 pounds of structural steel with 25,000 pounds of alloy steel—again a saving of about 3½ tons.

With the advent of the variable load brake, weight saving horizons have been immeasurably broadened. There no longer exists a need to justify excessive tare weight by referring to braking ratios which are incompatible with Association of American Railroads standards. Indeed, availability of the variable load brake suggests that we might well recast our thinking on the subject. Instead of thinking of a weight saving of 3½ tons per car, is there any valid reason why we should not now press toward savings of 5 tons or even 7 tons? I think not.

Ways to Cut Costs—"If one turns to aluminum as a substitute material, the present available weight savings are far greater, and so are the costs. But even so, it must be remembered at all times that aluminium and other materials offer further interesting opportunities for weight savings. To date, the number of semi-lightweight cars produced is discouragingly small, being in the neighborhood of 44,000, while the number on order is nothing over which to get excited. That, however, does not condemn the basic principle but instead should challenge us to produce even greater weight savings at even lesser costs. This challenge applies not only to the underframe and the superstructure of the freight car but to trucks, wheels, axles, draft gear, braking equipment and specialties as well. . . .

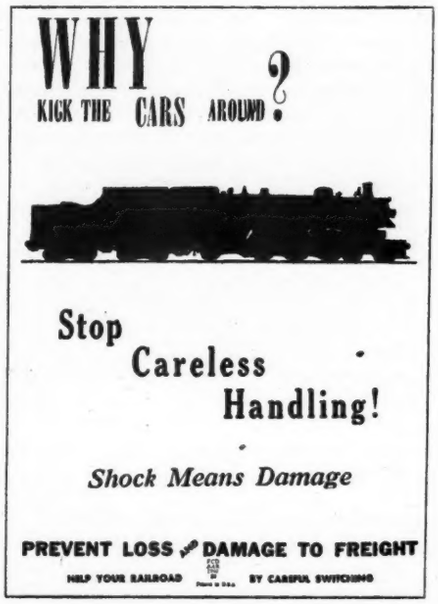
The savings to be effected through use of semi-lightweight constructions is yet another point for consideration. Assuming it to cost two mills to pull a ton of dead weight one mile, it follows that the railroads spent $212,000,000 last year to lug dead weight around. Using the same assumption, it is also seen that their annual savings can be in the neighborhood of $75,000,000 if 3½ tons are lopped off each of the next 500,000 freight cars that are built for domestic use.

"A few moments ago I suggested that the variable load weight might entitle us to aim for a weight savings of from 5 to 7 tons per car. For argument's sake call it 7 tons. Now look ahead to the day when the 1,700,000 cars existing today will have been scrapped and replaced by 1,700,000 new cars. If each of these new cars has 7 tons less tare weight, the savings at 1946 cost and traffic levels would be $424,000,000 a year. And if I am correct in saying that a 3½ ton weight reduction in each of the next 500,000 cars would save $75,000,000 yearly, then I am equally correct in asserting that a 7-ton weight reduction on the same 500,000 cars would mean an annual savings of $150,000,000.

"Certainly," Mr. Felton concluded, "there is an incentive. My belief is that this incentive warrants our continued interest and that it justifies construction of a far greater number of semi-lightweight cars. These would work initially in close runs to obtain maximum savings. But eventually larger savings would be made and the benefits would be extended to railroads everywhere."

How RRs Combat Damage Problem

Acting on the knowledge that many shippers and receivers of freight are not aware of the efforts of the railroads to prevent rough handling of cars in switching and other operations, the railroad contact committee of the National Association of Shippers Advisory Boards has distributed to customers of the railroads a leaflet telling of this work. It points out that, for the past six years, the National Freight Loss and Damage Committee of the Association of American Railroads has issued quantities of "Careful Handling" posters and bulletins to the individual carriers. Safe freight handling is also promoted through employee committee activities and by means of messages delivered by supervisors. "Regardless of the method," the leaflet states, "the subject has been, and is being, kept alive by one means or other."



The railroads use a variety of posters to reduce damage caused by rough handling

Benefit Payments Hit New High

A record total of $17,675,000 paid out in benefits and the passing of the quarter-million mark in the number of monthly retirement and death benefits in current-payment status highlighted the operations of the Railroad Retirement Board during September, according to the board's "Monthly Review." At the end of September, 255,278 benefits were being paid, representing a net gain of 6,732 for the month. Awards of retirement annuities during the period numbered 4,013, some 900 fewer than in the preceding month. There were 4,954 monthly death benefits awarded, approximately 1,000 fewer than in August.

Anent its unemployment operations, the board reported that railroad employees filed 16,618 applications for certificate of benefit rights, some 1,000 fewer than were filed in August. An estimated 40,448 workers were paid benefits in September for unemployment which occurred after June 30. Workers filed claims covering unemployment in 91,546 two-week registration periods, a figure approximately at the August level. The board placed 4,010 unemployed workers—545 of whom were claimants—compared with 4,567 and 617, respectively, in the preceding month.

In the first 3 months of the sickness benefit program, 59,000 railroad men and women notified the board of their illnesses and injuries by filing applications for benefits. Nearly 125,000 claims had been received by the end of September and 101,000 benefit payments made. Benefits totaling $3,776,000 were received by 37,000 beneficiaries. In addition, 907 railroad women received maternity benefits amounting to $170,000.

The sickness program continued to gather momentum in September, during which claims and payments for illness and injury were almost 30 per cent above the August level. Some 61,330 claims were received and $1,970,000 in benefit payments were made. Maternity benefits totaling $105,000 were paid to 858 railroad women during the month.

Would Convert Panama Canal into Sea-Level Waterway

Brigadier General Joseph C. Mehaffey, governor of the Panama Canal, has recommended to Congress that the canal be converted into a sea-level waterway which would be less susceptible to destruction from atomic bombing than the present lock-structured facility. General Mehaffey estimated that the cost of the conversion would be about $2,483,000,000.

His recommendation was contained in a report which President Truman transmitted to Congress this week. The report was made in response to a December 28, 1945, resolution wherein Congress called for a survey of "means of increasing the capacity and security" of the canal.

15-Cent "Red Cap" Charge Becomes Effective

The "red cap" charge for handling the baggage of railroad passengers was increased from 10 cents to 15 cents per piece of luggage in Central, Trunk Line and New England territories on December 1, when the Interstate Commerce Commission failed to suspend tariffs publishing the advance. It is understood that railroads in Southern territory are considering a like increase, which the December 1 tariffs extend to such border points as Washington, D. C., Cincinnati, Ohio, and Petersburg, Va.

The first tariff proposing the increase was filed by the Cincinnati Union Terminal Company, with a November 1 effective date, but the commission suspended that for 30 days and then received the territorial tariffs with December 1 effective dates, which it refused to suspend. Protests seeking suspension of the tariffs included those of the United Transport Service Employees and the Congress of Industrial Organizations.

Safe Place to Work May Mean Safe from Criminal Attack

The United States Supreme Court ruled last week that, unless a railroad sets up reasonable protective arrangements, it may be held liable for damages resulting from a criminal attack on an employee whom it assigns to work in a place made unsafe by the likelihood of such attack. Asserting that the allegations, "if supported by evidence, will warrant submission to the jury," the opinion remanded the case to the federal district court which had dismissed the suit on the ground that there could be no casual connection between the injury and the railroad's failure to light or guard the premises, and that the law does not permit recovery "for the intentional or criminal acts" of either a fellow employee or an outsider.

The suit, for $50,000, was filed against the St. Louis-San Francisco by Verble Singleton Lillie, a 22-year-old telephone operator, who was attacked while working alone on an 11:30 p.m. to 7:30 a.m. shift in a "one-room frame building, situated in an isolated part of respondent's railroad yard in Memphis, Tenn." Her duties were to receive and deliver messages to men operating trains in the yard, and her suit alleges that, though the railroad had reason to know that the yards were frequented by dangerous characters, it failed to exercise reasonable care to light the building or to guard or patrol it in any way. Other allegations of the suit were summarized by the Supreme Court as follows:

"In order for the trainmen to get the messages it was necessary for them to come to the building at irregular intervals throughout the night, and it was petitioner's duty to admit them when they knocked. Because there were no windows in the building's single door or on the side of the building in which the door was located, petitioner could identify persons seeking entrance only by unlocking and opening the door. About 1:30 a.m. on the night of her injury petitioner responded to a knock, thinking that some of respondent's trainmen were seeking admission. She opened the door, and before she could close it a man entered and beat her with a large piece of iron, seriously and permanently injuring her."

In rejecting the reasoning of the district court, which had been sustained by the Circuit Court of Appeals for the Sixth Circuit, the Supreme Court said that the cases cited by the district court "do not support the broad proposition enunciated by it, and do not cover the fact situation set forth by the pleadings in this case." It also said: "That the foreseeable danger was from intentional or criminal misconduct is irrevelant; respondent nonetheless had a duty to make reasonable provision against it. Breach of that duty would be negligence and we cannot say as a matter of law that petitioner's injury did not result at least in part from such negligence."

Would Extend Powers Under Which O.D.T. Functions

President Truman's powers to "allocate the use of railroad transportation equipment and facilities" would be extended to January 31, 1949, under the provisions of a bill (S.1818) which has been introduced in the Senate by Senator Reed, Republican of Kansas. The powers, now scheduled to expire February 29, 1948, have been delegated by the President to the Office of Defense Transportation.

Monon Revises Special "Back to School" Service

For the first time since prewar days, the Chicago, Indianapolis & Louisville ran special holiday service to accommodate students homeward-bound for the Thanksgiving weekend from college towns along its lines. The special train operated from Bloomington, Ind., Greencastle, Crawfordsville, LaFayette and Rensselaer—all school towns—to Chicago after last classes on Wednesday, November 26, and returned from Chicago late Sunday afternoon, November 30. More than 500 students made use of the special service at standard round-trip fares.

Sees "Defense" Argument for Seaway "Disposed of"

The "national-defense" argument for the proposed St. Lawrence seaway was "disposed of" by the recent report wherein Brigadier General Joseph C. Mehaffey, governor of the Panama Canal, recommended to Congress that the canal be converted into a sea-level waterway, Carroll B. Huntress, chairman of the National St. Lawrence Project Conference, said this week. The Mehaffey report, as Mr. Huntress read it, contained "the statement which ends all statements in support of the St. Lawrence project as a national defense measure."

"The report," he continued, "stated that a lock-structured canal could be put out of operation for years, or perhaps 'permanently,' by a single atom-bomb hit and that only a sea-level canal would be bomb-proof. . . . An appropriation of $2,483,000,000 is recommended to convert the Panama Canal into a sea-level channel. Such conversion of the St. Lawrence canal is out of the question. This report is in line with the testimony before the Senate foreign relations subcommittee last June by two retired officers, Vice Admiral Russell Wilson and Major General Follett Bradley. These officers stressed the vulnerability of the proposed St. Lawrence canal, located in that portion of the United States which the War Department says is the most vulnerable to enemy attack.

"Three years ago the St. Lawrence plan was again revived as a make-work project on the prediction that extensive unemployment would follow the end of hostilities. When that prediction failed to materialize, the national-defense argument was concocted. What next?"

C. & O. Steam-Turbine Electric Locomotive on Tour

The coal-burning steam-turbine electric locomotive built by the Baldwin Locomotive Works for the Chesapeake & Ohio was on exhibition in Washington, D. C., on December 1. The engine, which was previously shown at Atlantic City, N. J., during last June's railroad conventions there, is now making a tour of 12 cities on the C. & O. line.

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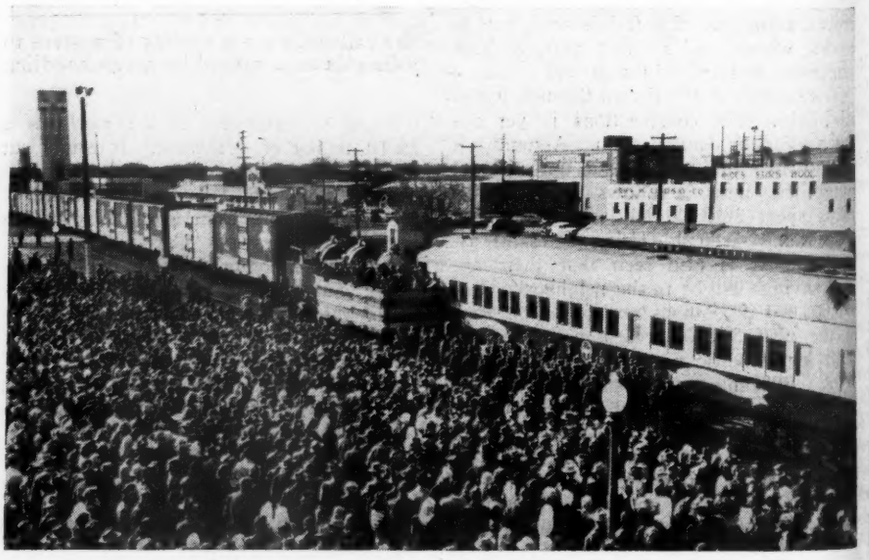


Photo courtesy Fairbanks, Morse & Co.

The first "Friendship Train," hauling voluntary food contributions to New York for export to Europe, arrived at Grand Island, Neb., on the Union Pacific behind a 6,000-hp. Fairbanks-Morse Diesel, and was greeted by a mass turnout of citizenry

Baldwin is building two other identical locomotives, and the three will be assigned to the "Chessies," new trains expected to be delivered to the C. & O. next year for daylight service between Washington and Cincinnati, Ohio.

Bethlehem Steel Buys Surplus Plant from W. A. A.

The Bethlehem Steel Company has purchased a surplus shell-casings plant in Johnstown, Pa., from the War Assets Administration, contingent upon an opinion by the Department of Justice that the transaction will not violate anti-trust laws. The plant, which was operated by Bethlehem during the war, will cost $500,000 and will be used for the fabrication of railroad car frames, mine cars, road mats, long span steel joists and miscellaneous products.

I.C.C. Signal Hearings

The Interstate Commerce Commission, W. J. Patterson, commissioner, presiding, held hearings in Chicago, November 17 to 21, inclusive, to hear the petitions of several railroads for relief from the requirements of the commission's signaling order issued June 17, 1947, which had not been heard previously. (See *Railway Age* of October 11, page 71.) The roads most recently heard were the Chicago & North Western, the Chicago, St. Paul, Minneapolis & Omaha, the Chicago, Rock Island & Pacific, and the Minneapolis, St. Paul & Sault Ste. Marie. In brief, this order of June 17 requires the railroads to install block signaling on all lines not now so equipped on which freight trains are operated at 50 m.p.h or more, or passenger trains at 60 m.p.h. or more, and protection in the form of train stop, train control of cab signaling on all tracks where any train is operated at 80 m.p.h or more.

The North Western, including the Omaha, sought relief from the requirement to install train stop, train control or cab signaling on certain lines between Chicago and St. Paul, where streamlined trains are operated at speeds higher than 80 m.p.h. Also, as applying to territories between Milwaukee, Wis., and Escanaba, Mich., via Green Bay, Wis., and between Mankato, Minn., and LaMar, Iowa, the request was to operate trains at speeds up to 65 m.p.h. without being required to install a block signal system.

The Rock Island requested permission to run certain streamlined "Rocket" trains over some territories at speeds up to 90 m.p.h. without being required to install cab signaling, train stop or train control. Some of these territories are on 117 mi. between Farnam, Iowa, and Grinnell; 265 mi. between Herington, Kan., and Chickasha, Okla.; and 336 mi. between Pratt, Kan., and Tucumcari, N. M. This railroad also requested permission to operate one train each way daily at speeds higher than 60 m.p.h, without installing block signaling, on 235 mi. between Booneville, Ark., and Oklahoma City, Okla.

The Soo Line is the operating agent for the Wisconsin Central, now in bankruptcy. In opening its case, the Soo Line stated that negotiations were under way, subject to approval of the federal court, to install automatic block on 268 mi. between Spencer, Wis., and Wheeling, Ill., which is 31 mi. from Chicago. Also, this carrier requested permission to operate trains at 60 m.p.h. without installing signaling on certain territories totaling 266 mi. on the route between Minneapolis, Minn., and Winnipeg, Man., as well as at 65 m.p.h. on 142 mi. between Spencer and a junction near St. Paul, Minn.

For the most part, the information brought forth at these sessions was similar to that given at the hearings held in October when the cases of the Union Pacific, the Great Northern, the Southern Pacific and the Santa Fe were heard. It was first brought out during the November hearings, however, in a statement by Commissioner Patterson, that the commission's order does not necessarily require wayside automatic block signals in an installation of cab signaling.

As a part of these sessions, a brief time on November 21 was given to applications which had been made by the Union Pacific to install a fourth aspect, Advance Approach, Rule 282A, on three signals, and by the Illinois Central to install such a fourth aspect on one signal. Both these railroads proposed to use a flashing yellow as this fourth aspect. However, the discussion and decision had to do with the meaning of the indication to an engineman rather than with the character of the aspect, i.e., whether it was yellow-over-yellow or flashing-yellow. In the Standard Code, the indication for the fourth aspect, Advance Approach, Rule 282A, is "Proceed preparing to stop as second signal." As applying to the fourth aspect on the proposed signals on the Union Pacific and the Illinois Central, as mentioned above, Commissioner Patterson, at the session on November 21, disclosed a decision that the indication should be "Proceed, train speed must be reduced immediately, sufficiently to pass next signal at a speed not to exceed 30 m.p.h."

The Union Pacific accepted this stipulation, but the Illinois Central withdrew its application as involving the proposed signal in question.

A. A. R. Meeting Scans Earnings, Car Lack

(*Continued from page 70*)

the railroads will continue to order or build cars to the full extent that materials are made available therefor, until the car shortage is over.

Colonel Johnson paid hearty tribute to the operating efficiency of the railroads, declaring that, "if it hadn't been for increased railroad efficiency, the entire world would be in consternation." He pointed out that this year the carriers moved the biggest wheat crop in history faster and in better shape than in the preceding year.

Along the same line, Mr. Faricy pointed to four records which the railroads have set during 1947: (1) More carloads of freight have been moved so far this year than in any of the war years, and with fewer freight cars; (2) an all-time high in box car loadings was reached in the third week in October; (3) sixty-eight per cent more ton-miles of transportation service were performed last month than in October, 1930, the last time the railroads moved more carloads than they did in October of this year; and (4) a new low in turn-around time of freight cars was set last month.

Directors Meeting—At the board of directors meeting the preceding day, President Faricy reported that more research projects are being carried on by the A. A. R. now than at any other time. (This subject was treated more fully in *Railway Age* of November 22, page 76.) The budget of the A. A. R. for 1948, as approved by the board of directors on October 31, 1947, comprises $4,742,914 for general expenses and $1,825,250 for public relations and advertising. The member road meeting also considered a report and recommendations of the Committee on Grade Crossing Elimination, with respect to basic policies to control the allocation of costs in connection with the construction, reconstruction, renewal and maintenance involved in highway-railroad crossing projects.

Motor Carrier Accounts

Division 1 of the Interstate Commerce Commission has made public a November 21 order wherein it prescribed a revised Uniform System of Accounts for class I common and contract motor carriers of property. The new system, effective January 1, 1948, will supersede the present system, which became effective January 1, 1938, and all supplements thereto.

The revision, the commission's announcement said, "is the result of several years' work and is based on comments and suggestions received from carriers, from employees of the commission, and from accounting committees of American Trucking Associations and the National Association of Railroad and Utilities Commissioners."

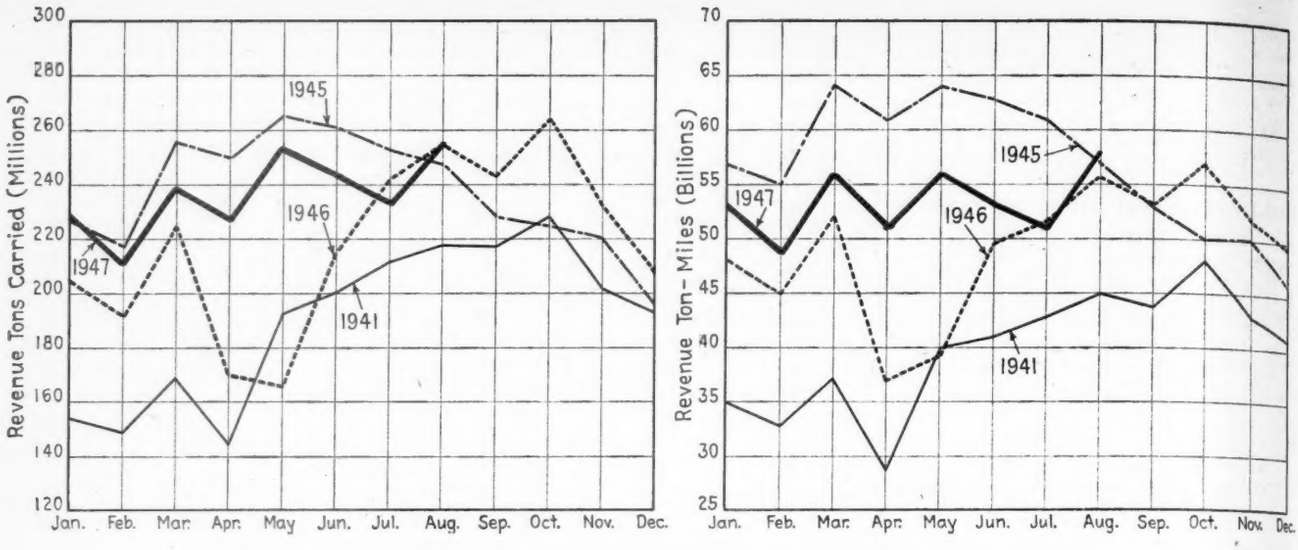
U. P. Fined $600

The Interstate Commerce Commission has been advised that judgment in the amount of $600 was entered November 19, in the United States district court at Omaha, Neb., against the Union Pacific which had confessed on six counts of a penalty suit charging violation of the commission service order. The judgment was $100 on each count. According to the commission's notice, the violations arose through the use of refrigerator cars for the transportation of commodities which had been banned by the order.

Railway Express Agency Seeks Another Rate Increase

The Railway Express Agency has asked the Interstate Commerce Commission for authority to make a further increase of 10 per cent in its rates and changes. The application took the form of a petition filed last week in the Ex Parte 163 proceeding wherein two previous increases have been granted during the past 12 months—one effective December 13, 1946, and the other on October 25.

These two increases were calculated to yield some $120,000,000 in additional annual revenue, but the present petition asserts a need for still more to offset increased expenses occurring since the close of the



Revenue Tons and Revenue Ton-Miles—1947 Compared with 1941, 1945 and 1946

hearing which was the basis of the October 25 advance. Among the increased costs is the 15½-cents-per-hour wage increase granted to R. E. A. employees after the arbitration board had awarded that amount to non-operating railroad employees. The annual cost of this wage award is put at $31,400,000, including equalizing increases to supervisory employees and additional payroll taxes.

R. E. A., the petition says, is unable to effect economies which would offset the increased costs to "any substantial extent," It is also noted that the wage bill accounts for about 80 per cent of the Agency's operating expenses, and is equivalent to 58 per cent of the gross revenues.

The petition estimates that the rate increases it proposes would yield additional annual revenues of $42,500,000. The 10 per cent increase would apply to class and commodity rates; to rates stated in the money classification; and to refrigeration and c. o. d. charges and all specific minimum charges. Examples of present and proposed first-class rates from New York were given, respectively, as follows: To Atlanta, Ga., $5.35 and $5.89; Boston, Mass., $3.05 and $3.36; Chicago, $5.35 and $5.89; Denver, Colo., $10.25 and $11.28; San Francisco, Cal., $14.40 and $15.84.

Wants Report on Shortage of Coal Cars

Representative Edith Nourse Rogers, Republican of Massachusetts, has introduced House Resolution 382 which would request the director of the Office of Defense Transportation to furnish the House "full information in his possession concerning the shortage of coal cars used in transportation of coal to New England and whether coal cars being released from the Great Lakes terminals can be assigned to New England."

Freight Car Loadings

Revenue carloadings for the week ended November 29 totaled 792,339 cars, the Association of American Railroads announced on December 4. This was a decrease of 110,333 cars, or 12.2 per cent, under the previous week, an increase of 131,428 cars, or 19.9 per cent, over the corresponding week last year and a decrease of 11,435 cars, or 1.4 per cent, under the comparable 1945 week.

Loadings of revenue freight for the week ended November 22 totaled 902,672 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For the Week Ended Saturday, November 22			
District	1947	1946	1945
Eastern	166,421	157,971	129,933
Allegheny	188,605	174,334	154,792
Pocahontas	71,033	39,562	51,406
Southern	136,295	125,586	116,493
Northwestern	124,716	113,850	86,950
Central Western	154,631	130,842	116,556
Southwestern	69,971	64,448	60,426
Total Western Districts	340,318	309,140	263,932
Total All Roads	902,672	806,593	716,556
Commodities:			
Grain and grain products	51,049	50,710	50,772
Livestock	17,685	23,932	21,393
Coal	194,286	97,348	151,264
Coke	15,094	12,567	12,677
Forest products	43,884	42,382	27,867
Ore	45,762	41,020	21,853
Merchandise l.c.l.	120,206	131,092	106,208
Miscellaneous	414,706	407,542	324,522
November 22	902,672	806,593	716,556
November 15	878,337	917,124	800,534
November 8	910,160	913,345	838,218
November 1	940,746	922,312	851,962
October 25	954,627*	942,257	854,779
Cumulative total, 47 weeks	40,546,776	37,658,380	38,372,554

In Canada.—Carloadings for the week ended November 22 totaled 86,508 cars as compared with 82,508 cars for the previous week and 78,711 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
November 22, 1947	86,508	39,258
November 23, 1946	78,711	37,141
Cumulative totals for Canada:		
November 22, 1947	3,570,182	1,735,119
November 23, 1946	3,329,010	1,622,279

Department of Transportation Proposed in Bills

Companion bills to establish a federal Department of Transportation under a secretary of transportation have been introduced in the Senate by Senator Capehart of Indiana and in the House by Representative Stefan of Nebraska, both Republicans. The bills are S.1812 and H.R.4595.

The proposed new department would be an executive department of the government, and there would be transferred to it the Interstate Commerce Commission, Office of Defense Transportation, United States Maritime Commission, Civil Aeronautics Authority, Civil Aeronautics Board, Civil Aeronautics Administration, the Office of the Administrator of Civil Aeronautics the Weather Bureau, and the Inland Waterways Corporation. All functions of O. D. T., the administrator of civil aeronautics, the Weather Bureau and I.W.C. would be administered "under the direction and supervision" of the secretary of transportation, as would "all the budgeting, accounting, personnel, procurement, and related routine management functions" of the I.C.C., M.C., and C.A.B.

The "rule making, adjudication and investigation functions" of these three commissions would be exercised "by each of them independently of the secretary of transportation." The bill defines the "rule-making" function as one which includes "the prescription of rules, regulations, rates, and divisions of rates, charges, standards, and practices." "Adjudication" would include "the making of reparations orders and the determination of construction-differential and operating-differential subsidies."

The secretary would be appointed by the President with the advice and consent of the Senate and would receive the compensation paid "other heads of executive departments." He would be assisted by an under-secretary receiving $12,000 per year and two assistant secretaries with $10,000 annual salaries. These, too, would be appointed by the President with the advice and consent of the Senate. Among the

secretary's duties would be one requiring him to "coordinate the activities of the various agencies in the department with a view toward the carrying out of the national transportation policy declared by the Congress in the Interstate Commerce Act, as amended by the Transportation Act of 1940."

In a joint statement issued in connection with the introduction of the bills, Senator Capehart and Representative Stefan said it was their hope that "coordination of the many scattered agencies and bureaus under a single department with a single head will work toward the efficiency needed to bolster the transportation facilities of the nation." They also said that "efficiency is and has been sadly lacking in governmental functions with respect to all forms of transportation."

The Senate committee on interstate and foreign commerce considered S.1812 at a November 28 executive session and referred the bill to a subcommittee headed by Senator Capehart and consisting also of Senators Reed of Kansas, Brewster of Maine, Republicans, and Johnson of Colorado, and McFarland of Arizona, Democrats. Senator Capehart stated this week that he has tentative plans for holding public hearings early next year.

I.C.C. Bureau's "Monthly Comment"—Correction

Fuel data presented by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics in the latest issue of its "Monthly Comment" showed that the Class I roads purchased 71,611,000 tons of coal f. o. b. mines during the first eight months of this year. An incorrect figure (76,611,000 tons) was reported in the "Fuel Purchases and Prices" section of the review of the "Comment" which appeared in the *Railway Age* of November 22, pages 32 and 47.

Enjoins Union, but Not Roads, in Negro Firemen's Case

Justice Alexander Holtzoff of the United States District Court for the District of Columbia announced last week that he would issue a temporary injunction prohibiting the Brotherhood of Locomotive Firemen & Enginemen from insisting upon further adherence by the Atlantic Coast Line and Southern to a 1941 agreement which a group of negro firemen employed by those roads are assailing as discriminatory, because, they allege, it has deprived them of preferred firemen positions to which their seniority on the firemen's roster would otherwise entitle them. The A. C. L. and Southern are defendants along with the brotherhood, but the temporary injunction will not run against them; the court, as it said, viewed the action as "primarily against the brotherhood because the complaint shows that the brotherhood was instrumental in securing such discriminatory action on the part of the railroads."

"The court realizes that the railroads have a public duty to perform," Justice Holtzoff also said. "Their function is to run railroads, and in the performance of their obligations they may be constrained to enter into agreements with labor unions to prevent interference with the operation of the line. For that reason the court will not grant any injunction against the railroads."

At the request of brotherhood counsel, the court agreed that when the temporary injunction order was signed it would be stayed for a week to allow time for the filing of an application for permission to take a special appeal to the circuit court of appeals. As noted in the *Railway Age* of November 1, page 48, the complaining firemen also seek a permanent injunction and damages for past alleged discriminations. As Justice Holtzoff summarized the issues, the complainants, "who are euphemistically known as non-promotable firemen," charge that at times they "lose their seniority rights and sometimes even their employment when steam power is displaced by Diesel power on any run on which a non-promotable fireman is employed, and that at times a person with less seniority is hired as a helper on a Diesel engine when a Diesel engine replaces steam power."

In other remarks leading up to its granting of the motion, the court observed that "no doubtful question of law is involved," because similar suits brought by individual negro firemen in the past have been decided in their favor by the courts, including upholdings by the Supreme Court (see *Railway Age* of December 23, 1944, page 970). The Seaboard Air Line, originally named in the complaint along with the A. C. L., Southern and the brotherhood, was recently dismissed as a defendant by Judge Holtzoff because it is involved in a similar case before another federal court.

F.C.C. Clears Way for C. & O. Train-Telephone Service

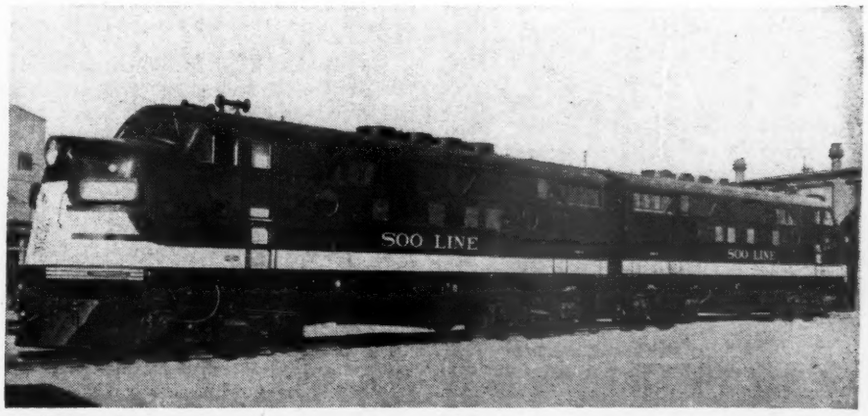
Construction of wire lines along the Chesapeake & Ohio right-of-way between Orange, Va., and Cincinnati, Ohio, and mobile tie-in apparatus, have been approved by the Federal Communications Commission which has thus cleared the way for experimental train-telephone service on the line. The F. C. C. announcement said that the estimated cost of the installation planned by the C. & O. is $358,900.

It explained that public telephone service will be available in the observation cars of the trains involved. Communication will be by the inductive method, giving the trains contact with the wayside wires which, in turn, will link with the Bell telephone system. The announcement explained further that this type of common carrier train telephone communication does not come within the scope of the established Railroad Radio Service which covers use of radiotelephony by rail personnel for train operation and yard and terminal traffic control.

Connections will be made to the land lines of the telephone companies at Staunton, Vt., Huntington, W. Va., and Covington, Ky. Terminals, to be located at these three places, will serve to change the frequencies of ordinary voice to higher frequencies for transmission between the terminals and satellite equipment located at various points along the railroad and also to convert to voice the higher frequencies received from the satellites. The various satellite locations will have equipment for converting the carrier frequencies used between the terminals and the satellite stations to still higher frequencies for transmission through space from the wayside wires to the mobile terminals on the trains. The higher frequencies on the wires will induce currents of the same frequencies in the train antenna receiving circuit and will in turn have different frequencies induced in them by the transmitting equipment and the transmitting antenna on the train.

Both eastbound and westbound trains will have equipment for two channels and therefore two simultaneous telephone conversations can be carried on from each train except when they are at and near the passing point. The satellite stations will be placed sufficiently close together to provide "overlap" so that conversations of any length can be held without interruptions. Calls to or from the train will be handled similarly to any toll call. Patrons will give the train operator the same information now furnished the telephone companies' toll operators. The train operator will ring the telephone company's toll operator at the nearest terminal point and the call will be handled from then on in the usual manner. When the connection has been made, the

* * *



The first of five 3,000-hp. freight Diesels built by Electro-Motive for the Soo Line

patron on the train will be notified. The reverse procedure will be used when calls are made to the train. Calls between the two moving trains can be handled through the terminals and the toll switchboards. Eventually, the C. & O. expects to offer this telephone service in room cars. When a passenger wants to make a call he will be able to do so by ringing for the porter who will bring a "plug in" telephone to the passenger's room.

Will Tighten Controls on Exports of Steel

Export controls will be applied to 36 additional iron and steel products, effective January 1, 1948, according to a December 3 announcement from the Department of Commerce's Office of International Trade. The announcement said that the extension will bring under control "over 95 per cent of the exports of steel mill products to all destinations except Canada." Products to be added to the controlled group include railway track materials and railroad specialties, such as car wheels and axles.

Young's Letter to Truman Hits Slow Action on Rates

If there is a breakdown of American railroads under military stress, or if government ownership is forced by bankruptcy induced by political finagling, it may ring the death knell of American free enterprise, Robert R. Young, chairman of the Federation for Railway Progress, said recently in a letter to President Truman. The letter, dated November 17, was made public with its appearance in the December issue of Railway Progress, the federation's monthly magazine.

Mr. Young reviewed what he described as the deterioration of the market value of railroad securities from 1935 to the present and the reduction in number, as well as the increase in age, of the nation's railroads' rolling stock. He pointed out that in 1935, when President Truman was a member of a Senate subcommittee investigating railroads, the market value of railroad stocks and bonds listed on the New York Stock Exchange was $13,500,000,000, although the cost of replacement as determined by the Interstate Commerce Commission was $27,400,000,000. Since then, he continued, these railroads have spent $4,600,000,000 for capital improvements and their net current assets have increased by $2,500,000,000, yet the market value of the same securities is now $1,000,000,000 less than in 1935.

"Our present fleet of 1,700,000 freight cars averages 21 years in age," the letter went on. "Twenty years ago when these cars were much newer we had 2,300,000. Then we had 48,000 fairly new passenger cars; now we have only 26,000 that average over 23 years of age. In the meantime, our population has increased a third. If the 100 per cent replacement order by the Chesapeake & Ohio is excluded, all the 133 railroads of the United States in the past twelve months have ordered only 112 passenger cars. This despite the fact that reservations to Florida, Arizona and California points this winter will be virtually unobtainable except for graft or to those with the *right* railroad connections.

"This alarming deterioration of what is probably as important to our defense as either our Army or Navy (for not a gun can fire without the delivery of domestic transportation) can, if there is a catastrophe," the letter to Mr. Truman continued, "be laid by the citizens directly at your door—first as member, then as ranking member of the Senate committee of Interstate commerce and now as chief executive and commander-in-chief."

After referring to an open letter on the freight rate problem which he wrote last year to Alfred Schindler, then acting secretary of commerce, Mr. Young's letter continued: "Now, Mr. President, the same farce at taxpayers' expense is being repeated this year, aggravated by fatuous hearings in various parts of the country to *seek* and receive objections to rate increases from profiteers—even extortioners. It is your Mr. Knudson of the Department of Agriculture who this year goes out of his way to slow up not only just but absolutely essential rate relief for the railroads. If the railroads are not permitted to catch up in their physical condition when a few heartless farmers are even going so far as to withhold produce from market to avoid this year's higher income tax brackets, what kind of physical condition will they be in at the end of the next war or the next depression? By 1929 the railroads had been stripped so bare by the bondsellers that at the first cloud they defaulted in their bond interest. In 1949, stripped by the politicians, will they be unable to meet their payrolls?"

Organizations

H. W. MacArthur, general traffic manager of the consolidated traffic departments of the Air Reduction Company and United States Industrial Chemicals, has been elected president of the **New York Traffic Club** to succeed H. L. Lauby, eastern traffic manager for the Union Pacific. R. W. Nelson, eastern traffic manager of the Minneapolis & St. Louis, was elected first vice-president and J. W. Harley, director of transportation, United States Rubber Company, second vice-president. J. F. Turf, traffic manager, Diamond Match Company; Ralph R. Seberry, general traffic manager, Corn Products Refining Company; and Robert S. Hirsch, eastern freight traffic manager, Atchison, Topeka & Santa Fe, were elected to the club's board of directors.

The **Traffic Club of Washington** will hold its annual Ladies Night dinner dance on December 10 at the Mayflower hotel, Washington, D. C.

The **Southeast Shippers Advisory Board** will hold its 80th regular meeting in Tampa, Fla., on December 11 and 12, at the Hillsboro hotel. J. A. Dart, president of the Florida National Bank, Jacksonville, will address the board's luncheon session. The rest of the program will be devoted to committee reports and a report on the national transportation conditions by C. R. Megee, vice-chairman, Car Service Division, Association of American Railroads.

The **Third Southern Machinery and Metal Exposition** will be held April 5-8, 1948, inclusive in Atlanta, Ga., at the Municipal Auditorium.

The **Ohio Valley Transportation Advisory Board** will hold its 24th annual and 84th regular meeting on December 9, at the Netherland Plaza hotel in Cincinnati, Ohio. Ernest E. Norris, president of the Southern, will be the guest speaker.

Walter C. Mittelberg, editor of the Western Pacific's employee magazine, "The Headlight," was recently elected president of the **American Railway Magazine Editors' Association.** The names of other newly elected officers of the association were reported in *Railway Age* of November 15, page 248.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

AIR BRAKE ASSOCIATION.—F. C. Goble, N. Y. N. H. & H. R. R. Co., New Haven 6, Conn.

ALLIED RAILWAY SUPPLY ASSOCIATION.—C. F. Weil, American Brake Shoe Company, 332 S. Michigan Ave., Chicago 4, Ill. Exhibit in conjunction with meeting of the Coordinated Mechanical Associations, September 20-23, 1948, Chicago, Ill.

AMERICAN ASSOCIATION OF BAGGAGE TRAFFIC MANAGERS.—E. P. Soebbing, 1450 Railway Exchange Bldg., St. Louis 1, Mo. Annual meeting, January 21-23, 1948, Rice Hotel, Houston, Tex.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York 6, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, June 8-10, 1948, Hotel Stevens, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, 1103 Cleveland St., Evanston, Ill. Annual meeting, January 16-17, 1948.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elsie LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 21-23, 1948, Hotel Stevens, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York 6, N. Y.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—W. J. Walsh, B. & O. R. R., Baltimore 1, Md. Annual meeting, April 5-7, 1948, Hotel Roosevelt, New Orleans, La.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 16-18, 1948, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—Harry Walker, D. & R. G. W. Ry., Room 204, Rio Grande Bldg., Denver, Colo.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—Tower Bldg., Washington 5, D. C.

AMERICAN SOCIETY FOR TESTING MATERIALS.—R. J. Painter, Asst. Secretary, 1916 Race St., Philadelphia 3, Pa. Spring meeting and Committee Week, March 1-5, 1948, Hotel Statler, Washington, D. C. Annual meeting, June 21-27, 1948, Book-Cadillac Hotel, Detroit, Mich.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York 18, N. Y.
Railroad Division.—E. L. Woodward, Railway Mechanical Engineer, 105 W. Adams St., Chicago 3, Ill.

AMERICAN WOOD-PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St., N. W., Washington 5, D. C. Annual meeting, April 27-29, 1948, Hotel St. Paul, St. Paul, Minn.

ASSOCIATED TRAFFIC CLUBS OF AMERICA, INC.—R. A. Ellison, Cincinnati Chamber of Commerce, 1203 C. of C. Bldg., Cincinnati 2, O.

ASSOCIATION OF AMERICAN RAILROAD DINING CAR OFFICERS.—W. F. Ziervogel, 605 S. Ranken Ave., St. Louis 3, Mo.

ASSOCIATION OF AMERICAN RAILROADS.—George M. Campbell, Transportation Bldg., Washington 6, D. C.
Operations and Maintenance Department.—J. H. Aydelott, Vice-president, Transportation Bldg., Washington 6, D. C.
Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.
Operating Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.
Transportation Section.—H. A. Eaton, 59 E. Van Buren St., Chicago 5, Ill.

Communications Section.—W. A. Fairbanks, 30 Vesey St., New York 7, N. Y.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York 17, N. Y.

Freight Station Section.—W. E. Todd, 59 E. Van Buren St., Chicago 5, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Protective Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, March 16-18, 1948, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Signal Section—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y. Annual meeting, September 14-16, 1948, Hotel Statler, Buffalo, N. Y.

Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, June 28-30, 1948, Congress Hotel, Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago 5, Ill.

Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Bldg., Washington 6, D. C.

Freight Claim Division.—Lewis Pilcher, (Executive Vice-Chairman), 59 E. Van Buren St., Chicago 5, Ill. Annual meeting, May 11-13, 1948, McAllister Hotel, Miami, Fla.

Motor Transport Division.—Transportation Bldg., Washington 6, D. C.

Car Service Division.—W. C. Kendall, Chairman, Transportation Bldg., Washington 6, D. C.

Finance Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Bldg., Washington 6, D. C.

Accounting Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.

Treasury Division.—E. R. Ford, Transportation Bldg., Washington 6, D. C.

Traffic Department.—Walter J. Kelly, Traffic Officer, Transportation Bldg., Washington 6, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Gulf, Mobile & Ohio R. R., 340 W. Harrison St., Chicago 7, Ill. Annual meeting, May 19-21, 1948, French Lick Springs Hotel, French Lick, Ind.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—E. C. Gunther, Duff-Norton Mfg. Co., 122 S. Michigan Ave., Chicago 3, Ill. Exhibit in conjunction with meeting of the American Railway Bridge and Building Association. September 21-23, 1948, Hotel Stevens, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal 28, Que. Regular meetings second Monday of each month, except June, July and August, Mount Royal Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis 3, Mo. Regular meetings, third Tuesday of each month, except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H. Stremmel, 6536 Oxford Ave., Chicago 31, Ill. Annual meeting, September 20-23, 1948, Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—W. E. Angier, chief A. A. R. clerk, C. B. & Q. R. R., 547 W. Jackson Blvd., Chicago 6, Ill. Regular meetings, second Monday of each month, except June, July and August, LaSalle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E. Mann, 1840-42 Hotel Statler, McKinley Square, Buffalo 5, N. Y. Regular meetings, second Thursday of each month, except June, July and August, Hotel Statler, Buffalo, N. Y.

CHICAGO LUNCHEON CLUB OF MILITARY RAILWAY SERVICE VETERANS.—Col. R. O. Jensen, Schiller Park, Ill. Luncheon, second Wednesday of each month, Chicago Traffic Club, Palmer House, Chicago, Ill.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—H. J. Hawthorne, Union Railroad, East Pittsburgh, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York 7, N. Y. Regular meetings, second Friday of January, February (Annual Dinner), March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, North Little Rock, Ark. Annual meeting, September 20-23, 1948, Chicago, Ill.

MAINTENANCE OF WAY CLUB OF CHICAGO.—C. R. Knowles, Room 2000, 105 W. Adams St., Chicago 3, Ill. Regular meetings, fourth Monday of each month, October through April, inclusive, except December, when the third Monday, Hardings at the Fair.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany 3, N. Y. Annual meeting, September 20-23, 1948, Chicago, Ill.

METROPOLITAN MAINTENANCE OF WAY CLUB.—John Vreeland, Simmons-Boardman Publishing Corp., 30 Church St., New York 7, N. Y. Meets in October, December, February and April. Next meeting, December 11, 1947, noon, Hotel Sheraton Lounge, New York, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington 25, D. C. Annual meeting, November, 1948, Savannah, Ga.

NATIONAL ASSOCIATION OF SHIPPERS' ADVISORY BOARDS.—F. J. Armstrong, United States Radiator Corporation, United Artists Bldg., Detroit, Mich.

NATIONAL INDUSTRIAL TRAFFIC LEAGUE.—Edward F. Lacey, Suite 450, Munsey Bldg., Washington 4, D. C. Annual meeting, November 18-19, 1948, Hotel Pennsylvania, New York, N. Y.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago 4, Ill. Meeting and exhibit in connection with A. R. E. A. Convention, March 15-18, 1948, Amphitheatre, Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston 11, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York 7, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September and December, 29 W. 39th St., New York, N. Y. Annual dinner, December 11, 1947, Hotel Commodore and Hotel Biltmore.

NORTHWEST CARMEN'S ASSOCIATION.—E. N. Myers, Minnesota Transfer Ry., 1434 Iowa Ave., St. Paul 4, Minn. Regular meetings, first Monday of each month, except June, July and August, Midway Club, 1931 University Ave., St. Paul, Minn.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box 458, San Rafael, Cal. Regular meetings, second Thursday of each alternate month at Palace Hotel, San Francisco, Cal., and Hotel Biltmore, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago 3, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago 6, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago 4, Ill. Annual meeting, September 20-23, 1948, Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—A. W. Brown, Room 1424, 30 Church St., New York 7, N. Y.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with Communications Section, of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 610 Shell Bldg., St. Louis 3, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—Miss Elise LaChance, Room 901, 431 S. Dearborn St., Chicago 5, Ill. Annual meeting, September 21-23, 1948, Hotel Stevens, Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York 7, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—P. J. Climer, N. C. & St. L. Ry., Nashville, Tenn., Acting Sec'y. Annual meeting, January 21, 1948, Atlanta, Ga.

TORONTO RAILWAY CLUB.—D. L. Chambers, Acting Sec'y. P. O. Box 8, Terminal "A", Toronto 2, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago 5, Ill. Exhibit in conjunction with meeting of the Roadmasters and Maintenance of Way Association. September 21-23, 1948, Hotel Stevens, Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 225 Bidwell Ave., Westerleigh, Staten Island 2, N. Y.

WESTERN RAILWAY CLUB.—E. E. Thulin, Suite 339, Hotel Sherman, Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

Financial

LAKE SUPERIOR & ISHPEMING.—*Changed Dividend.*—This road has declared a dividend of 50 cents a share on the common stock, payable on December 10 to stockholders of record on December 3. The two previous payments this year were 25 cents each on September 25 and March 22.

MISSOURI PACIFIC.—*To Retire Bonds of N. O. T. & M.*—Authority to retire $2,354,100 of 5 per cent noncumulative income bonds of the New Orleans, Texas & Mexico, a Missouri Pacific subsidiary, has been granted to Guy A. Thompson, trustee of the roads. The N. O. T. & M., Mr. Thompson stated, has sufficient cash to pay two months of unpaid interest totaling $19,618 and to pay the principal of the bonds, which matured on October 1, 1935.

NORTHERN PACIFIC-UNION PACIFIC.—*Trackage Rights.*—These companies have applied to the Interstate Commerce Commission for approval of arrangements whereby they would serve the co-called Hanford (Wash.) project of the federal government's Atomic Energy Commission. The arrangements contemplate acquisition by the N. P. of trackage rights over approximately 5 miles of U. P. line (part of the Oregon-Washington Railroad & Navigation's Yakima branch), extending from Kennewick, Wash., to a connection with a 6.7-mile government-owned line leading to the project. Both roads would have trackage rights over the government-owned line, paying $4 per loaded car for their use of it. While the application sets out the whole plan, it takes the position that commission approval is required only for that phase which would involve N. P. operation over U. P. tracks The government-owned line, it contends, is an industrial spur. the serving of which does not require commission authorization.

PACIFIC ELECTRIC.—*Acquisition.*—This road has applied to the Interstate Commerce Commission for authority to purchase and operate portions of two branch lines owned by its lessee, the Southern Pacific. The lines, which would be acquired at their depreciated book values, are the S. P.'s Los Alamitos branch between Stanton Junction, Cal., and Los Alamitos, 4.5 miles; and two segments of the Smeltzer branch—between Stanton Junction and Wintersburg, 6.7 miles, and between Wiebling and Huntington Beach, 2.3 miles. The application stated that it would be followed by another, seeking authority to complete the purchase of the Smeltzer branch through acquisition of the Wintersburg-Wiebling segment.

READING.—*Control of Lessors.*—This road has applied to the Interstate Commerce Commission for authority to acquire control, through stock ownership, of two of its lessor lines—the Catawissa and the Little Schuylkill Navigation, Railroad &, Coal Co. Consummation of the plan, which is designed to reduce net annual rentals, will require the acquisition of 8,610 additional shares of Catawissa preferred

stock and 3,106 additional shares of Little Schuylkill common. The applicant proposes to pay $50 per share in each case.

SOUTHERN PACIFIC.—*Equipment Trust Certificates.*—Subject to Interstate Commerce Commission approval, this company has sold $14,500,000 of series W equipment trust certificates to Salomon Brothers & Hutzler and associates on a bid of 99.42 for 2¼ per cent obligations. The sale price represents an interest cost of about 2.365 per cent. (See *Railway Age* of November 22, page 926). The certificates were re-offered to the public at prices yielding from 1.35 per cent to 2.50 per cent, according to maturity.

WESTERN MARYLAND.—*Equipment Trust Certificates.*—This road has applied to the Interstate Commerce Commission for authority to issue $3,000,000 of 5-year 1¾-per-cent equipment trust certificates to finance in part the acquisition of 2 1,500-hp. Diesel-electric switching locomotives from the Elecro-Motive Division of the General Motors Corporation and 1,000 55-ton steel hopper cars from the Bethlehem Steel Company. The application puts the unit price of the locomotives at about $121,762, and that of the hoppers at about $3,670. The issue has been sold, subject to commission approval, to Blair & Co., which submitted the most favorable bid—99.817. The certificates will be dated December 1 and mature in 10 semi-annual installments of $300,000 each on June 1 and December 1 of the years 1948 to 1952, inclusive.

Dividends Declared

Alabama Great Southern.—6% partic. preferred (irreg.), $3.00; ordinary stock (irreg.), both payable December 24 to holders of record December 4.

Atchison, Topeka & Santa Fe.—common, $1.50, payable March 1 to holders of record January 30; 5% non-cum preferred, $2.50, semi-annually, payable February 2 to holders of record December 30.

Boston & Albany.—$2.25, payable December 31 to holders of record November 29.

Chicago, Burlington & Quincy.—$3.00, payable December 24 to holders of record December 12.

Cincinnati, New Orleans & Texas Pacific.—common, $3.00, payable December 18 to holders of record December 6; 5% preferred, $1.25, quarterly, payable March 1, 1948, to holders of record February 14; 5% preferred, $1.25, quarterly, payable June 1 to holders of record May 15; 5% preferred, $1.25, quarterly, payable September 1 to holders of record August 14; 5% preferred, $1.25, quarterly, payable December 1 to holders of record November 15.

Erie.—50¢, semi-annually, payable December 22 to holders of record December 4.

Kansas, Oklahoma & Gulf.—6% preferred A, $3.00, semi-annually; 6% non-cum preferred B, $3.00, semi-annually; 6% non-cum preferred C, $3.00, payable December 1 to holders of record November 22.

Lake Superior & Ishpeming.—50¢, payable December 10 to holders of record December 3; Year-end, 50¢, payable January 22, 1948, to holders of record January 15.

New York & Harlem.—10% preferred, $2.50, semi-annually, payable January 2 to holders of record December 12.

Reading.—4% 2nd preferred, 50¢, quarterly, payable January 8, 1948, to holders of record December 18.

Ware River.—guaranteed, $3.50, semi-annually, payable January 7, 1948, to holders of record December 19.

Average Prices Stocks and Bonds

	Dec. 2	Last week	Last year
Average price of 20 representative railway stocks	46.63	46.88	49.23
Average price of 20 representative railway bonds	84.88	85.44	89.76

Equipment and Supplies

War Assets Sells 751 Cars

The War Assets Administration has negotiated the sale of an additional 751 surplus troop sleepers which remained in inventory after previous fixed price and sealed bid sales. The original inventory of 1,300 had been reduced by sale at fixed prices of $3,780 each for cars built in 1945 and 1946 and $2,880 each for cars built in 1943 and 1944. In the final negotiations, 50 cars were sold to the Chesapeake & Ohio and 701 to the U. S. Department of Interior for transfer to the Alaskan Railroad.

Domestic Equipment Orders Reported in November

Domestic orders for 10 steam and 176 Diesel-electric locomotives (plus 120 Diesel-electric freight units and 20 Diesel-electric passenger units ordered by the Union Pacific), 7,660 freight cars and 6 passenger cars were reported in *Railway Age* in November. All the steam locomotives and 1,500 of the freight cars were ordered from railroad company shops. The estimated cost of locomotives is $49,450,000; the freight cars will cost approximately $30,000,000; and it is estimated that the passenger cars will cost something in excess of $750,000. The accompanying table lists the orders in detail.

During the first 11 months of 1947, *Railway Age* has reported domestic orders for 1 gas-turbine, 4 electric, 20 steam and 624 Diesel-electric locomotives, plus the 140 Diesel-electric units mentioned previously (costing altogether an estimated $142,350,000), 94,359 freight-train cars (at an estimated cost of $379,900,000), and 281 passenger-train cars (the estimated cost of which is $23,487,000).

$19 Million Worth of Diesels for Burlington and Milwaukee

The boards of directors of two railroads—the Chicago, Burlington & Quincy and the Chicago, Milwaukee, St. Paul & Pacific—have authorized purchases of new Diesel-electric motive power, totaling $13,000,000 in the case of the Burlington and $6,288,000 for the Milwaukee. The latter road intends to buy 38 locomotives and the former will purchase 30.

The Burlington's board of directors, meeting at Omaha, Neb., on November 25, authorized the acquisition of the following Diesel-electric locomotives: 15 6,000-hp. freight, four 2,000-hp passenger, one 4,000-hp passenger, one 4,500-hp. freight and nine 2,000-hp. road-switching. The additional motive power, it was stated, will permit not only the Dieselization of additional train mileage on the Burlington, but that of the "time" freight trains of the Colorado & Southern and the Fort Worth & Denver City (parts of the Burlington system). The equipment will also allow the extension of Diesel freight and passenger service to several lines of the road which have no Diesel service.

The Milwaukee, according to C. H. Buford, president, will purchase the following Diesel-electric locomotives: eight 3,000-hp. freight, six 2,000-hp. passenger, 20 1,000-hp. switching and four 1,500-hp. designed for

Locomotives

Date	Purchaser	No.	Type	Builder
Nov. 1	N. & W.	10	2-8-8-2 Frt.	R. R. Shops
Nov. 8	L. V.	7	4,000-hp. D.-E. pass.	American
Nov. 8	L. & N. E.	10	1,500-hp. D.-E. frt.	American
		1	1,000-hp. D.-E. sw.	American
Nov. 22	D. & R. G. W.	4	1,000-hp. D.-E. sw.	Fairbanks, Morse
		3	1,500-hp. D.-E. sw.	Fairbanks, Morse
Nov. 22	U. P.	80	1,500-hp. D.-E. frt. unit	Electro-Motive
		20	1,000-hp. D.-E. sw. unit	Electro-Motive
		12	1,500-hp. D.-E. pass. unit	Electro-Motive
		40	1,500-hp. D.-E. frt. unit	American
		15	1,500-hp. D.-E. rd.-sw. unit	American
		8	2,000-hp. D.-E. pass. unit	American
		5	1,000-hp. D.-E. sw. unit	Baldwin
		1	2,000-hp. D.-E. heavy duty unit	Fairbanks, Morse
Nov. 22	W. M.	2	1,500-hp. D.E.	Electro-Motive
Nov. 29	B. & O.	40	1,000-hp. D.-E. sw.	Electro-Motive
		25	1,000-hp. D.-E. sw.	American
		25	1,000-hp. D.-E. sw.	Baldwin
		10	1,000-hp. D.-E. sw.	Fairbanks, Morse
Nov. 29	Reading	3	6,000-hp. D.-E. frt.	American
		3	6,000-hp. D.-E. frt.	Electro-Motive
Nov. 29	W. M.	2	1,500-hp. D.E. rd. sw.	Baldwin

Freight Cars

Date	Purchaser	No.	Type	Builder
Nov. 1	C. G. W.	10	70-ton Gondola	Pressed Steel
Nov. 1	G. N.	500	Box	R. R. Shops
Nov. 8	Virginian	500	50-ton Gondola	R. R. Shops
		500	50-ton Hopper	R. R. Shops
Nov. 22	A. T. & S. F.	750	70-ton Gondola	American Car & Fdy.
		250	70-ton Ballast	American Car & Fdy.
		200	70-ton Hopper	American Car & Fdy.
		250	16,000-gal. Tank	General American
		200	70-ton Cov. Hopper	General American
		100	50-ton Gondola	Pressed Steel
		300	50-ton Hopper	Pullman-Standard
Nov. 22	U. P.	400	70-ton Gondola	American Car & Fdy.
		1,500	70-ton Hopper	Pressed Steel
Nov. 29	B. & O.	1,000	70-ton Hopper	Bethlehem
		1,000	70-ton Hopper	Pressed Steel
Nov. 29	L. S. & I.	200	70-ton Ore	Bethlehem

Passenger Cars

Date	Purchaser	No.	Type	Builder
Nov. 8	Wabash	6	Undesignated	Budd

either switching or road service. All through passenger trains of the Milwaukee between Chicago-Milwaukee, Wis., and St. Paul, Minn.-Minneapolis will be drawn by Diesel power when the new equipment is placed into service, Mr. Buford stated. In addition, Diesels will be used on all of the road's passenger trains between Chicago and Madison, Wis., Mason City, Iowa, and Sioux Falls, S. D.

The Milwaukee president pointed out that the 20 new switchers will contribute materially to the road's program to Dieselize its terminals. The new equipment will bring the total number of Diesel-electric locomotives on the Milwaukee to 175.

Steam Locomotive Servicing Plants for Poland

Looking to the rehabilitation of the Polish railways, the Republic of Poland, through the Polish American Supply Corporation, New York, has awarded a contract to the Ross & White Co., Chicago, for the equipment for 10 "N&W" type multiple-track locomotive cinder plants, and two 500-ton and one 300-ton locomotive coaling plants with sanding equipment. Ross & White will do all the engineering work and prepare the drawings, while the construction work will be done by the Polish railways. The contract price is $250,000.

SIGNALING

The CHICAGO, BURLINGTON & QUINCY has ordered materials from the General Railway Signal Company for the installation of Type-K centralized traffic control on 24.1 mi. of single track between Machens, Mo., and Old Monroe. The control machine, to be installed at Old Monroe, 22.5 mi. from the most distant control point, will have a 44-in. panel equipped with 29 track indication lights, a 22-pen train recorder, and 20 levers for the control of 10 switch machines, an electric switch lock, and 42 signals. This order also includes equipment for an all-relay electric interlocking to control a bridge gauntlet between West Alton, Mo., and Bellefontaine. The 10- by 18-in. control panel, to be located at West Alton, will have 6 track indication lights and 2 levers for the control of 4 signals. Type-K relays, switch roller bearings, Model-5D dual-control electric switch machines, Type-SA searchlight signals, Model-9A electric switch locks, and welded steel instrument cases are included in this order.

LOCOMOTIVES

The BALTIMORE & OHIO has ordered 20 1,500-hp Diesel-electric freight units from the Electro-Motive Division of the General Motors Corporation for delivery during the second quarter of 1948.

The CANADIAN NATIONAL has ordered two 3-unit 4,500-hp. Diesel-electric road locomotives from the Electro-Motive Division of the General Motors Corporation. In making the announcement, R. C. Vaughan, chairman and president, cautioned against underrating the worth of steam locomotives. The modern steam engine, he said, is the product of more than a century of motive power technology and many factors must be weighed in evaluating the merits of the two forms of motive power.

The CHICAGO & NORTH WESTERN has placed orders for 22 Diesel-electric units. Fifteen 1,500-hp. freight units, to be delivered in March, 1949, and 6 2,000-hp passenger units, to be delivered in January, 1949, will be built by the Electro-Motive Division of the General Motors Corporation and 1 1,500-hp. switcher, to be delivered next month, will be constructed by the American Locomotive Company.

The KANSAS CITY SOUTHERN has ordered 10 1,000-hp. Diesel-electric switching locomotives from the Electro-Motive Division of the General Motors Corporation. Delivery is scheduled for the second quarter of 1948.

The LOUISIANA & ARKANSAS has ordered one 2-000-hp. Diesel-electric freight unit from Fairbanks, Morse & Co. for delivery during the second quarter of 1948.

The MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE recently received one of five 3,000-hp. Diesel electric freight locomotives on order with the Electro-Motive Division of General Motors Corporation. The railroad has also ordered five similiar units from the American Locomotive Company, the delivery of which is expected during the first half of 1948. The authority to purchase the ten locomotives was reported in the *Railway Age* of May 31.

The NORTHERN PACIFIC has ordered 5 Diesel-electric locomotives. Three 1,500-hp. road-switching locomotives will be built by the Baldwin Locomotives Works and 2 6,000-hp. freight locomotives by the Electro-Motive Division of the General Motors Corporation.

The PITTSBURGH & SHAWMUT has purchased five booster-equipped Mikado-type steam locomotives from the Chicago, Indianapolis & Louisville.

The WABASH is inquiring for seven 1,000-hp. and three 660-hp. Diesel-electric switchers.

FREIGHT CARS

The CARBON COUNTY is inquiring for 300 70-ton hopper cars.

The CHESAPEAKE & OHIO has ordered 200 50-ton 50½-ft. automobile box cars from the Pressed Steel Car Company for delivery in May, 1948. The cars, to be built at Mt. Vernon, Ill., will cost $1,340,000.

The ELGIN, JOLIET & EASTERN is inquiring for 300 50-ton coke cars.

The NASHVILLE, CHATTANOOGA & ST. LOUIS is inquiring for 50 70-ton gondola cars.

The NORTHERN PACIFIC has ordered 500 box cars and 200 flat cars from its Brainerd, Minn., shops. This order is in addition to that for 1,000 50-ton box cars (see *Railway Age* of April 19), which are scheduled to be completed at Brainerd in March of next year.

The SOUTHERN PACIFIC SYSTEM is inquiring for 3,350 50-ton box cars, 2,650 flat cars, 3,400 gondola cars, 350 70-ton covered hopper cars and 80 steel cabooses. In making the announcement, President A. T. Mercier said actual placing of the orders would be expedited with a view to securing earliest possible delivery. Shortages of materials and construction difficulties, he pointed out, have held back deliveries of the railroad's previous large orders. New freight equipment is coming through now in some quantity but still not at the rate predicted by builders some months ago. The new box cars will be of wood-lined steel construction for general service and the covered hopper cars will be particularly suited to the transportation of granular products. Among the gondola cars will be some 60-ft. units with drop-ends, especially useful in the handling of long timber and steel shipments, while others are to be 50-ton 41-ft. units for hauling sugar beets. The flat cars will include 50-ton capacity 40-ft. and 70-ton capacity 53-ft. lengths and the cabooses are to be provided with "bay windows" instead of cupolas.

The WABASH has ordered 20 cabooses and 118 gondola cars from its Decatur, Ill., shops. The road is also inquiring for 100 50-ft. box cars, 50 65-ft. gondolas and 50 "economy loader" merchandise cars.

Abandonments

MINNEAPOLIS & ST. LOUIS.—Following the recommendations of Examiner P. C. Albus' proposed report, to which "no exceptions were filed," Division 4 of the Interstate Commerce Commission had denied this road's application for authority to abandon a branch line extending 2.5 miles from Lynnville Junction, Iowa, to Lynnville. As noted in the *Railway Age* of September 27, page 80, where the examiner's report was reviewed, the abandonment was sought in connection with "long-range plans" of the applicant to substitute Diesel-electric power for steam power in the general territory between Oskaloosa and Des Moines, and to provide a new route between those points via its New Sharon-Newton branch. The condition of the Lynnville branch, which connects with the New Sharon-Newton branch at Lynnville Junction, is such that the Diesels could not be operated over it. Noting that it will be "some time" before the applicant's plans are consummated, the division also found that the line sought to be abandoned had not been generally unprofitable from a system-revenue standpoint. However, the adverse ruling is "without prejudice to the renewal of the application at such time as the applicant can show that the traffic available to it in the tributary territory is insufficient to pay the costs of operating the line."

NEW JERSEY & NEW YORK.—This road's trustee has applied to the Interstate Commerce Commission for authority to abandon a 1.2-mile section of its Haverstraw branch—from Thiells, N. Y., to Stony Point Junction.

Car Service

I. C. C. Service Order No. 244 (third revised), which provides rules for the distribution of grain cars at country loading points in periods of car shortage, has been modified by Amendment No. 1, which set back the expiration date from December 31 until December 31, 1948.

I. C. C. Service Order No. 620 (revised), which prohibits the light-weighing of cars placed at the ports for loading with import freight, has been modified by Amendment No. 4, which set back the expiration date from December 1 until February 29, 1948.

The Office of Defense Transportation has issued two additional general permits and another special direction, which modify the provisions of General Order ODT 18-A, the minimum-loading order for carload freight. General Permit ODT 18-A, Revised-34, effective from November 28 until January 31, 1948, relates to mixed shipments of onions and Irish potaties; General Permit 18-A, Revised-35, effective from December 1, relates to shipments of seed potatoes; and Special Direction ODT 18-A-2A, Amendment 8, effective from December 1, relates to the loading of Irish potatoes.

Supply Trade

William Smurdon has been appointed a sales representative of the **George B. Cross Company,** at Chicago, sales outlet for **S. Karpen & Bros.,** manufacturers of transportation seating.

Jerry M. Gruitch, formerly vice-president in charge of engineering and a member of the board of directors of the O. A. Sutton Corporation, has been appointed director of research and development of the **American Car & Foundry Co.** Mr.

Jerry M. Gruitch

Gruitch's earliest work was with the Ford Motor Company from 1921 to 1929, where he advanced from apprentice toolmaker to personnel supervisor. Between 1929 and 1933 he studied engineering at the University of Michigan. In 1934 he joined the Chrysler Corporation as experimental engineer and by 1941 he had been promoted to chief engineer of research and development of heating and refrigeration in the company's Airtemp division. From 1941 to 1945 he served in the army. After leaving the service Mr. Gruitch was appointed assistant chief engineer at the Dodge division of Chrysler, holding that position until he joined O. A. Sutton.

The **National Brake Company** has announced the appointment of **W. O. Bussenius & Co.** as mid-western representative for the sale and service of Peacock

W. O. Bussenius

brake equipment. W. O. Bussenius & Co will have headquarters at 310 South Michigan avenue, Chicago.

Lee S. Coulter, whose appointment as manager of the industrial sales division of the **American Hoist & Derrick Co.** was reported in *Railway Age* of November 8, joined the firm as a stenographer in the

Lee S. Coulter

sales department in May, 1929. Three years later he was appointed secretary to the assistant sales manager and in 1935 he was named general sales correspondent for the company. In 1941 Mr. Coulter was engaged in handling contract correspondence and scheduling orders for the War and Navy Departments and the United States Maritime Commission.

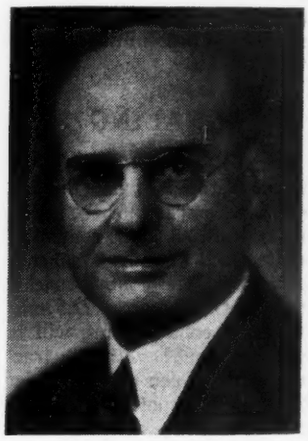
The appointment has been announced of the **Industrial Equipment Company,** Louisville, Ky., as a distributor of the entire line of industrial hose, belting and packing of the Hewitt rubber division of **Hewitt-Robins, Inc.**

Norman L. Deuble has joined the metallurgical engineering staff of the **Climax Molybdenum Company.** Before joining Climax Molybdenum, Mr. Deuble was with the M. W. Kellogg Company in charge of special processes and the work in the high temperature laboratory.

W. V. O'Brien has been appointed assistant general manager of sales for the apparatus department of the **General Electric Company.**

OBITUARY

Frederick Albert Croft, vice-president and assistant general manager of the Magnus Metal Division of the National Lead Company, with headquarters at Chicago, died on November 20, in the Evanston (Ill.) Hospital. Mr. Croft was born in Chicago on November 1, 1880, and attended public schools and business college in that



Frederick Albert Croft

city. In 1908, he was appointed assistant manager of the St. Louis (Mo.) plant of the Hewitt Manufacturing Company (later Magnus Metal Company), and he was given jurisdiction over the operations of all of the Magnus western plants in 1927. Mr. Croft was appointed vice-president and assistant general manager of the Magnus Metal Division, National Lead Company, in 1936.

Construction

ATLANTIC COAST LINE.—This road has authorized a project involving the laying of 300 feet of double track and the construction of a concrete pile and slab approach trestle to replace an open deck timber trestle over McGirts creek, near Jacksonville, Fla. The probable cost is $121,200.

BALTIMORE & OHIO. —This road has awarded contracts for the following projects, the estimated total cost of which is $1,209,000: To C. F. Englehart, Inc.,

Pittsburgh, Pa., for constructing bridge 2/95 at Cincinnati, Ohio, and the placement of fill east of Mill Creek, also at Cincinnati; to the Otis Elevator Company, Baltimore, Md., for increasing the capacities of four elevators at Pier 8 in Baltimore; to the Huffman-Wolfe Company, Philadelphia, Pa., for remodeling compressed air facilities at Willard, Ohio; to the Geo. F. Hazelwood Company, Cumberland, Md., for an improvement to a freight transfer platform at Cumberland; to the Poirier & McLane Corp., New York, for grading, excavation and masonry for the foundations of coal handling facilities at Howland Hook, N. Y.; to the Acme Construction Company, Cleveland, Ohio, for grading and drainage in a new yard at Parma, Ohio, as well as the construction of track in the yard to serve a parts plant of the General Motors Corporation; and to the Empire Construction Company, Baltimore, for constructing banana-handling facilities at Locust Point, Baltimore.

CHICAGO, ROCK ISLAND & PACIFIC.—This road has awarded the following contracts for construction jobs, the costs of which are shown in parenthesis: to C. C. Summers & Co. of Rock Island, Ill., and the Truscon Steel Company of Chicago, for the construction of a Diesel inspection pit and shed, at Silvis, Ill. ($85,254); to the Kucharo Construction Company of Des Moines, Iowa, for the erection of a concrete-and-brick garage, 80 ft. by 280 ft., to be used by the Rock Island Motor Transit Company at Des Moines ($125,000); to the John Soller Construction Company of Davenport, Iowa, for the construction of freight facilities, to include a 42 ft. by 170 ft. office and warehouse building and a 44 ft. by 361 ft. covered platform, with necessary driveways, at Kansas City, Kan., ($125,000); and to J. W. Bateson Company of Dallas, Texas, for the construction of new freight handling facilities at Dallas, to include a 30 ft. by 36 ft. office, a 30 ft. by 105 ft. enclosed warehouse, a 30 ft. by 90 ft. covered concrete platform and a 34 ft. by 70 ft. wood dock ($70,000).

The railroad's own forces are performing the necessary track laying and surfacing work coincident with the construction of 3.7 mi. of new line at McPherson, Kan., at a cost of $523,000. This line—which will replace 4.23 mi. of present line, including the present passenger station and grounds—will eliminate 100 deg. of curvature, reduce maximum curve from six deg. to one deg. and eliminate seven street crossings. In connection with the project, the following contracts have been awarded: to the Stamey Construction Company of Hutchinson, Kan., for grading and concrete box culverts; to Armco Drainage & Metal Products, Inc. of Middletown, Ohio, for metal pipe culverts; to the List & Weatherly Construction Co. of Kansas City, Mo., for bridges; and to N. F. English of Hutchinson, for a new freight and passenger station.

The railroad is also performing the track laying and surfacing work in connection with two similar jobs, at Butterfield, Ark., and Dallas, Texas. At the former city, the road is constructing 4.5 mi. of spur track to serve the National Lead Company, at an estimated cost of $380,000. The contract for grading, bridge and culvert work has been let to the McGeorge Contracting Company of Pine Bluff, Ark. At Dallas, the Rock Island will construct 12,706 ft. of trackage to serve the Trinity industrial district, at estimated cost of $197,840. The grading and culvert pipe work will be performed by Kiewit & Condon-Cunningham of Omaha, Neb.

LOUISVILLE & NASHVILLE.—The company forces of this railroad are engaged in the following construction projects, the estimated costs of which are shown in parenthesis: Yard improvements at DeCoursey, Ky., to include the construction of a 24-ft. extension on a 40-ft. concrete arch culvert, the installation of subdrainage in present fill, the installation of new double track scales, the construction of a 40-ft. by 80-ft. two-story frame yard office and the erection of additional flood light towers ($188,174); joint construction with the Southern of two interchange tracks totaling 5,537 ft., at Willoughby (West Knoxville), Tenn., the cost to be borne equally by the two railroads (90,000); improvement of the South Louisville (Ky.) car repair shops to provide better facilities and to expedite freight car repairs ($178,188); and the construction of a second floor to the Corbin (Ky.) passenger station and the building of a 34-ft. by 50-ft. motor car repair shop at that point ($51,317). Authority has been received by the L. & N. to install a system of pneumatic tubes in the yards at DeCoursey, Ky., designed to speed up train movement and messenger service. The estimated cost of this work is $30,230. No contract has been awarded.

NEW YORK CENTRAL.—This road has awarded a contract to the J. F. Fitzgerald Construction Company, Boston, Mass., for the construction of a passenger station at Dunkirk, N. Y.

PATAPSCO & BACK RIVERS.—Division 4 of the Interstate Commerce Commission has authorized this road, which serves the Baltimore, Md., industrial area, to construct two line extensions totaling 3.4 miles in length. The new facilities, which would cost an estimated $1,033,971, would include improved arrangements for the interchange of traffic with the Pennsylvania and Baltimore & Ohio.

PENNSYLVANIA.—Plans whereby this road proposes to improve its facilities for interchanging traffic with the Patapsco & Back Rivers in the Baltimore, Md., area have been approved by Division 4 of the Interstate Commerce Commission. The approval came in a report which authorizes the Philadelphia, Baltimore & Washington, P. R. R. lessor, to construct a 6-mile line from its Bay View yard along the west side of Back river to a point where it would connect with the Patapsco. The estimated cost of the new line is $2,126,066.

SOUTHERN PACIFIC-TEXAS & NEW ORLEANS-TEXAS & PACIFIC-EL PASO SOUTHERN.—These roads have applied to the Interstate Commerce Commission for approval of new construction and abandonments involved in a joint plan to rearrange their tracks and thus eliminate certain grade crossings in El Paso, Tex.

Overseas

GREAT BRITAIN.—The London & North Eastern is planning the purchase of 176 350-hp. Diesel-electric switching locomotives to replace 217 steam locomotives now in use.

Railway Officers

EXECUTIVE

Joseph W. Klein, whose election as vice-president and traffic manager of the Midland Valley, the Kansas, Oklahoma & Gulf and the Oklahoma City-Ada-Atoka, with headquarters at Tulsa, Okla., was reported in *Railway Age* of November 22, began his railroad career as a clerk in the traffic department of the M. V., at Muskogee, Okla., in 1910. He became city freight

Joseph W. Klein

agent at Tulsa in 1915, and was later promoted successively to commercial agent and general agent. During World War I he served as a lieutenant in the 36th Engineers, which was attached o the Transportation Corps in France and Germany. Upon the termination of the war, Mr. Klein was appointed general freight agent of the M. V., and in 1931 he was further advanced to freight traffic manager. The following year he was promoted to traffic manager, which position he held at the time of his recent election as vice-president and traffic manager of the three companies.

Frank A. Murphy, general freight agent of the Maine Central, has been promoted to assistant to the vice-president—traffic, with headquarters as before at Portland, Me. Mr. Murphy was born at Calais, Me., on October 30, 1889, and commenced his railroad career with the Maine Central, after graduation from Calais Academy, as a baggagemaster at Calais in August, 1908. He remained there as freight agent and as cashier until he enlisted in the U. S. Army in 1918. Returning to the Maine Central, he was appointed cashier at Skowhegan,

Me., in 1921 and in 1924 he was promoted to traveling freight agent at Calais. He was general agent at Presque Isle, Me., and Bangor, and New York, successively, being promoted to assistant general freight agent

Frank A. Murphy

at Portland in 1935. Mr. Murphy was appointed general freight agent at Portland in February, 1946, which position he held until his recent promotion to assistant to the vice-president—traffic.

Lewis Fisher Ormond, whose appointment as assistant vice-president—accounts of the Atlantic Coast Line at Wilmington, N. C., was reported in *Railway Age* of November 29, was born at Austin, Tex., on August 8, 1894. He entered railroad service on July 1, 1912, with the Gulf, Colorado & Santa Fe at Galveston, Tex., serving until April 1, 1920, in various clerical positions in the accounting department. Mr. Ormond then became field accountant

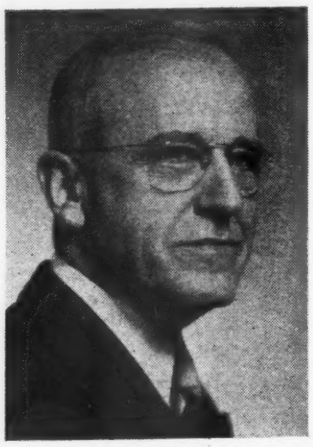
Lewis Fisher Ormond

for the United States Railroad Administration and from March 1, 1921, to April 28, 1937, he served in various positions from examiner of accounts to chief accountant and auditor in field service of the Bureau of Accounts, Interstate Commerce Commission. From May 1, 1937, to March 18, 1943, Mr. Ormond was assistant comptroller of the Atlantic Coast Line, the Charleston & Western Carolina, the Winston-Salem Southbound and other A.C.L. subsidiaries. On March 18, 1943, Mr. Ormond was appointed comptroller of the A.C.L. and assistant comptroller of subsidiaries, which positions he held until his recent appointment as assistant vice-president—accounts.

S. O. Rentschler, general manager of the Elgin, Joliet & Eastern, with headquarters at Chicago, was elected vice-president of the railroad by its board of directors on November 26. A photograph of Mr. Rentschler and a sketch of his career appeared in *Railway Age* of December 14, 1946, in connection with his promotion to general manager.

F. S. Hales, assistant to president of the New York, Chicago & St. Louis, has been appointed vice-president — operation, with headquarters as before at Cleveland, Ohio.

William M. Long, whose appointment as assistant vice-president of the Illinois Terminal at St. Louis, Mo., was reported in *Railway Age* of November 8, was born on March 29, 1889, at Peoria, Ill., and began his railroad career with the Cleveland, Cincinnati, Chicago & St. Louis as a telegraph operator in 1907, at Mackinaw, Ill. His subsequent career included service with the Chicago & Alton (now part of the Gulf, Mobile & Ohio) at Bloomington, Ill., and



William M. Long

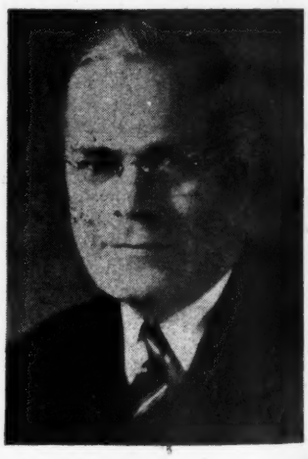
Peoria; with the Illinois Central as city freight agent successively at Peoria and Omaha, Neb., and later as an employee in its service bureau at Chicago and as city freight and passenger agent at Peoria; and with the Illinois Traction System (now Illinois Terminal), at Peoria, as traveling freight and passenger agent. Mr. Long became general agent of the Illinois Terminal at Peoria in 1925, and was advanced to assistant general freight agent at Chicago in 1929. He was promoted to northern traffic manager at Chicago in 1939, and remained in that position until 1941, when he was transferred to New York as eastern traffic manager. He was serving in the latter capacity at the time of his new appointment.

J. Roy Warner, chief clerk to the vice-president of the Baltimore & Ohio, has been appointed assistant to vice-president, accounting and freight claims, with headquarters at Baltimore, Md. Mr. Warner entered the service of the Baltimore & Ohio in the accounting department in 1919. He advanced through various positions in the accounting department and was appointed accountant in November, 1938.

Earl T. Moore, vice-president and general manager in charge of operations and maintenance of the Central of Pennsylvania, (a wholly owned subsidiary of the Central of New Jersey), was elected president of the Central of Pennsylvania at a special meeting of the stockholders at Mauch Chunk, Pa., on November 24. Mr. Moore succeeds **William Wyer,** who has resigned as president and as a member of the board of directors. Mr. Moore is also chief executive officer of the Central of New Jersey. **Arthur C. Tosh,** chief operating officer of the Central of New Jersey, has been appointed also vice-president and general manager in charge of operations and maintenance of the Central of Pennsylvania, succeeding Mr. Moore.

Fred A. Dawson, general manager of the New York Central's line Buffalo and East, has been appointed vice-president, line Buffalo and East, with headquarters as before at New York, succeeding **A. H. Wright,** who has retired after 47 years of service with the New York Central.

Mr. Dawson was born at Lima, Ohio, on July 1, 1891, and entered railroad service on January 1, 1910, as clerk in the office of the superintendent of freight transportation, Cleveland, Cincinnati, Chicago & St. Louis (New York Central). Mr. Dawson served in various capacities with that road until June 1, 1929, when he was appointed superintendent car service. Five months later he became assistant superintendent freight transportation and on September 1, 1937, was promoted to superintendent freight transportation, C. C. C. & St. L. On November 1, 1942, he became superintendent of the Cincinnati Terminal division



Fred A. Dawson

of the New York Central at Cincinnati, Ohio, and two months later he was furloughed to the U. S. government as associate deputy solid fuel administrator for war at Washington, D. C. From January to September, 1944, Mr. Dawson was superintendent of the Ohio division of the New York Central at Springfield, Ohio, and on the latter date he became manager of freight transportation at New York. He became general manager, line East on August 1, 1946, which position he held until his recent appointment as vice-president.

News Department continued on next left-hand page.

HIGH SPEED FREIGHT DEMANDS EMPHASIZE THE NEED FOR . .

MODERN POWER

Today's freight demands can only be met through a maximum of operating efficiency . . . operating efficiency that is backed up by MODERN Motive Power, capable of hauling increased loads at higher speeds. Reduced running time means increased availability . . . and increased availability means increased revenues. « Lima-built Modern Steam Locomotives have shown what Modern Steam Power can do to decrease running time and increase availability and freight revenues.

LIMA HAMILTON CORPORATION

LIMA, OHIO
Lima Locomotive Division
Lima Shovel and Crane Division

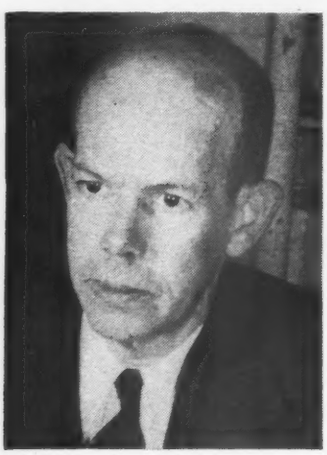
LIMA-HAMILTON CORPORATION

HAMILTON, OHIO
Hooven, Owens, Rentschler Co.
Niles Tool Works Co.

Mr. Wright was born at Putnam, N. Y., on May 17, 1878, and entered railroad service on November 30, 1900, as clerk with the New York Central at Rotterdam Junction, N. Y. He then served in various other capacities on this road, including assistant trainmaster of the Mohawk and River divisions. Mr. Wright was appointed trainmaster of the River division on October 1, 1913, being promoted to assistant superintendent of that division on April 1, 1923, and superintendent on December 16, 1924. On January 1, 1927, he was appointed assistant to general superintendent of the New York Terminal district and on February 1, 1930, he became assistant to assistant general manager at New York. Nine months later he was appointed assistant to general superintendent of the New York Terminal district becoming assistant superintendent of that district on October 10, 1931, and superintendent of the New York Terminal district and River division on May 1, 1932. Mr. Wright was appointed assistant general manager at Syracuse, N. Y., on November 1, 1937, and became vice-president and general manager at New York on January 1, 1941, relinquishing the title of general manager last year, but remaining vice-president until his retirement on November 30.

FINANCIAL & LEGAL ACCOUNTING

A. S. Trundle, Jr., whose appointment as comptroller of the Atlantic Coast Line at Wilmington, N. C., was reported in *Railway Age* of November 29, was born at Leesburg, Va., on June 11, 1900. Mr. Trundle entered railroad service in 1918 as a clerk in the fuel department of the Southern at Washington, D. C., where he remained until November, 1920, when he entered the service of the Atlantic Coast Line. He served successively as secretary in the office of the general manager at Wilmington, secretary to executive vice-president, and in the accounting department,



A. S. Trundle, Jr.

office of the auditor of disbursements, until February, 1927, when he became traveling auditor. From January 1, 1930, to May, 1937, Mr. Trundle served successively as assistant general bookkeeper, general bookkeeper and chief clerk in the office of the comptroller. On the latter date he was appointed assistant to comptroller, becoming assistant comptroller (junior) on October 1, 1941, and assistant comptroller (senior) on March 18, 1943, holding the latter position at the time of his recent appointment as comptroller.

J. J. Murray, chief clerk in the office of the auditor of disbursements of the Great Northern at St. Paul, Minn., became auditor of disbursements on December 1, succeeding **H. J. Sturner,** who retired on that date. Mr. Sturner joined the G. N. as a clerk in 1900, advancing to chief clerk in the office of the auditor of disbursements in 1913. In 1916, he became train statistics accountant, and had held the position of auditor of disbursements since 1921.

Charles L. Dautrich has been appointed district freight claim agent of the Southern at Cincinnati, Ohio, a newly-created position.

OPERATING

Walter C. Owens, whose retirement as general manager of the Canadian National's Western region, at Winnipeg, Man., was reported in *Railway Age* of November 15, was born on October 29, 1882, at Manitou, Man., and began his railroad career in 1904 in the legal department of the Canadian Northern (now Canadian National). He subsequently held various positions, including those of clerk in the construction department, freight brakeman, conductor, trainmaster, and assistant division superintendent. Mr. Owens was appointed superintendent at Kamloops, B. C.,

Walter C. Owens

in 1925, and was transferred to Winnipeg in 1927. His next position was that of superintendent of freight train service at Montreal, Que., after which he became general superintendent of the Saskatchewan district at Saskatoon. He held a similar position from 1936 to 1939 at Edmonton, Alta., and became general superintendent of transportation at Winnipeg in the latter year. He was further advanced to assistant general manager at Winnipeg in 1942 and to general manager there in 1944. Mr. Owens was serving in the latter capacity at the time of his retirement.

Howard H. Sparling, whose promotion to general manager of the Canadian National's Western region at Winnipeg, Man., was reported in *Railway Age* of November 15, was born on November 18, 1883, at Rockwood, Ont., and began his railroad career in 1901 as an operator with the Grand Trunk (now part of the C. N. R.). Mr. Sparling subsequently served in various

Howard H. Sparling

positions until 1929, when he became superintendent of transportation of the C. N. R., with headquarters at Edmonton, Alta. He became division superintendent at the latter point in 1939, and in 1942 was appointed general superintendent of the Saskatchewan division, at Saskatoon. Mr. Sparling was transferred to Edmonton in February of 1944 as general superintendent of the Alberta district, and in November of that year was made chief of transportation at Montreal, Que. In May, 1946, he was appointed assistant general manager of the Winnipeg region, at Winnipeg, which position he held at the time of his recent promotion.

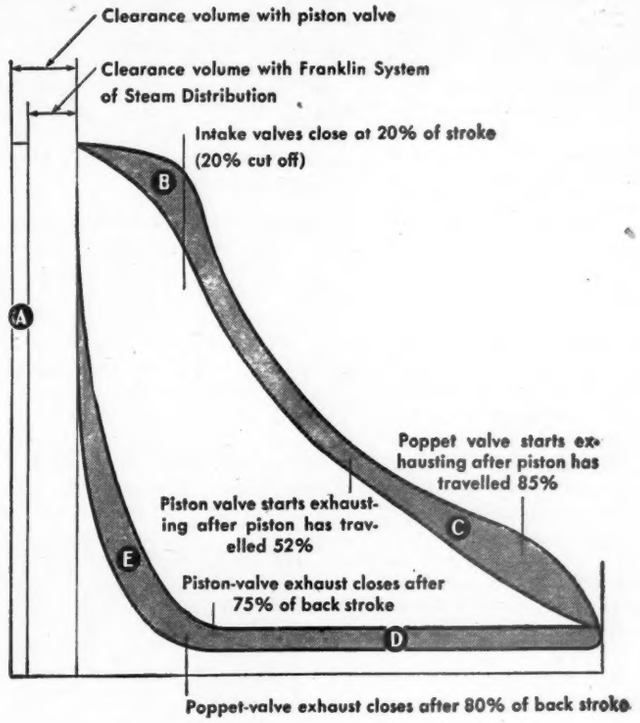
James J. Frawley, assistant general manager of the New York Central line Buffalo and East, has been promoted to general manager, line East, with headquarters as before at Syracuse, N. Y.,

James J. Frawley

succeeding **Fred A. Dawson,** who has been appointed vice-president, line East. Mr. Frawley was born at Buffalo, N. Y., in 1888, and entered railroad service in 1902 as telegraph messenger with the New York Central at Buffalo. He was appointed telegraph operator in 1906; train dispatcher at Buffalo in 1914; yardmaster at Erie,

News Department continued on next left-hand page.

MORE POWER FROM THE BOILER


Clearance volume with piston valve
Clearance volume with Franklin System of Steam Distribution
Intake valves close at 20% of stroke (20% cut off)
A
B
C
D
E
Poppet valve starts exhausting after piston has travelled 85%
Piston valve starts exhausting after piston has travelled 52%
Piston-valve exhaust closes after 75% of back stroke
Poppet-valve exhaust closes after 80% of back stroke

A With reduced clearance volume (space between intake valves and piston at end of stroke) more economical use is made of the steam admitted to cylinders.

B With larger steam flow areas and faster valve openings, steam enters the cylinder with smaller pressure drop. This increases the amount of steam admitted for a given cut-off — increases the power output for a given cut-off, or permits the use of a shorter and more economical cut-off for a given power output.

C With late release, the expansion period is increased substantially. This increases efficiency by increasing the amount of heat transformed into mechanical work.

D With late release and large exhaust areas, the back pressure is lower, which again increases the power obtained from a given amount of steam.

E With low back pressure, and late compression, excessive pressures at the end of the back stroke are avoided. Economical short cut-offs can be used without severe reactions on the running gear.

WITH

THE FRANKLIN SYSTEM OF STEAM DISTRIBUTION

These indicator cards represent a locomotive equipped with the Franklin System of Steam Distribution and a locomotive, identical in all other respects, equipped with piston valves. Both cards are based on high-speed operation at 20% cut-off.

As can be seen, the engine equipped with poppet valves can utilize full boiler capacity because of the larger steam flow areas and the faster opening and closing of valves. It develops more horsepower per pound of steam. It uses less fuel and water to deliver a given horsepower output.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK • CHICAGO • MONTREAL

STEAM DISTRIBUTION SYSTEM • BOOSTER • RADIAL BUFFER • COMPENSATOR AND SNUBBER • POWER REVERSE GEARS
AUTOMATIC FIRE DOORS • DRIVING BOX LUBRICATORS • STEAM GRATE SHAKERS • FLEXIBLE JOINTS • CAR CONNECTION

Pa., in 1916; trainmaster at Erie in 1918 and assistant superintendent of the Erie division in 1937. Mr. Frawley became superintendent of the Erie division in 1940 and was appointed assistant to general manager, line West, at Cleveland, Ohio, in 1943. He was advanced to assistant general manager at Cleveland, in November, 1945, transferring to Syracuse in September, 1947.

J. P. Spears has been appointed trainmaster of the Panhandle & Santa Fe (part of the Atchison, Topeka & Santa Fe), with headquarters at Tulsa, Okla.

Robert G. Claiborne, superintendent of the Kentucky & Indiana Terminal at Louisville, Ky., has been appointed superintendent of the Southern at Atlanta, Ga., succeeding **Robert F. Logan,** who has been appointed chief engineer maintenance of way and structures at Knoxville, Tenn.

Charles C. Robinson, acting superintendent of car service of the Chicago, Indianapolis & Louisville, with headquarters at LaFayette, Ind., has been appointed superintendent of car service at that point. He succeeds **Henry J. Molke,** who has been appointed assistant superintendent of car service at his own request, due to ill health.

Edward Marksheffel, whose retirement as general superintendent of the Union Pacific's south-central district, at Salt Lake City, Utah, was reported in *Railway Age* of November 8, was born in Manhattan, Kan., and received his higher education at Kansas State College. He joined the U. P. in 1899 as a messenger in his home town, and was advanced through the ranks to cashier. Later he transferred to the operating department of the road and held positions successively as brakeman and conductor. He became associated with the Denver & Rio Grande (now Denver & Rio Grande Western) in 1905, and subsequently entered the employ of the Nevada Northern. Rejoining the U. P. in 1907, Mr. Marksheffel advanced to the position of courtesy director and to terminal superintendent at Los Angeles in 1937. He had held the position of general superintendent since 1943.

TRAFFIC

R. Bert Weaver, whose promotion to general passenger agent of the Gulf, Mobile & Ohio, at Chicago, Ill., was reported in *Railway Age* of October 11, was born on September 23, 1899, at St. Louis, Mo., and entered the service of the Chicago & Alton (now G. M. & O.) in 1918 as ticket stock man. He subsequently held positions as station passenger agent, cashier and refund clerk. In 1922 he was appointed city passenger agent at Peoria, Ill., and in 1924 was transferred to Chicago. His next positions were, successively, those of traveling passenger agent, general agent in the passenger department and assistant general passenger agent. Mr. Weaver held the latter position at the time of his new appointment.

Walter Ovens, passenger traffic representative in the London office of the Canadian National, has been promoted to district passenger agent there.

William A. Springall, division freight agent of the Missouri-Kansas-Texas, with headquarters at Oklahoma City, Okla., has been promoted to assistant general freight and passenger agent at that point.

J. R. Mansfield has been appointed general agent of the Chesapeake & Ohio, with headquarters at San Francisco, Cal., succeeding **C. L. Brown,** who has retired.

W. R. Tice, assistant general freight agent of the Missouri-Illinois at St. Louis, Mo., has been appointed general freight agent at that city. Mr. Tice's former position has been abolished.

Charles S. McDonald, whose promotion to merchandise traffic manager of the Texas & Pacific at Dallas, Tex., was reported in *Railway Age* of November 29, was born on April 2, 1901, at Montgomery, Tex. He received his higher education at night schools in Dallas, and completed an advance course in transportation at the Texas Commerce Law School in 1939. Mr. McDonald entered railway service in 1918 with the Gulf, Colorado & Santa Fe (part of the Atchison, Topeka & Santa Fe) as an assistant to the local agent at Montgomery.

Charles S. McDonald

In 1919, he joined the T. & P. at Dallas as a mail and file clerk in the overcharge claims bureau and subsequently advanced through various clerical positions in the office of the auditor of freight receipts. Mr. McDonald was transferred in 1928 to the general freight traffic department, where he advanced to the positions of assistant general merchandise traffic agent of the T. & P. and assistant general freight agent of the road's motor transport company in 1939. He became acting general merchandise traffic agent of the T. & P. in 1945, advancing the following year to general merchandise traffic agent. Mr. McDonald was serving in the latter capacity at the time of his recent promotion.

J. W. Switzer, passenger traffic manager of the New York Central at Chicago, on December 1 became assistant to general passenger traffic manager, with headquarters remaining at Chicago. **S. W. Bone,** general passenger agent, has been advanced to passenger traffic manager, and **T. E. Nerland,** assistant general passenger agent, succeeds Mr. Bone as general passenger agent.

Harry J. Cartier, district freight representative of the Baltimore & Ohio, has been appointed general freight agent at Detroit, Mich. **John H. Kuntz,** general freight agent at Chicago, has been transferred to Cincinnati, Ohio.

A. H. Mayo, chief clerk to the general freight traffic manager of the Chesapeake & Ohio, has been appointed assistant general freight agent at Richmond, Va., succeeding **W. K. Weisiger,** who has retired after 35 years of service. **R. P. Van Voorst,** city passenger agent at Cincinnati, Ohio, has been appointed district passenger agent at Cleveland, Ohio, succeeding the late **John J. Mulrooney,** whose death on November 9 was reported in *Railway Age* of November 22.

H. J. Polack, assistant fuel traffic manager of the Chicago, Burlington & Quincy at Chicago, has retired after 56 years of service with the road.

F. N. Hicks, passenger traffic manager of the Chicago, Milwaukee, St. Paul & Pacific, with headquarters at Chicago, will retire on December 31, at his own request, after more than 47 years of railroad service.

Everett D. Davis, freight traffic manager of the Baltimore & Ohio at Rochester, N. Y., has been transferred to New York, succeeding **Paul S. Phenix,** who is retiring after 27 years with this company.

Mr. Phenix was born at Portland, Me., on January 8, 1894, attended Phillips Exeter Academy, and received his A. B. degree from Yale in 1916. He entered railroad service in 1917 as industrial survey agent of the Baltimore & Ohio, in which capacity he continued until 1921, with the exception of service in the U. S. Army from 1918 to 1920, as second lieutenant Air Service pilot. In 1921 Mr. Phenix became division freight agent of the B. & O. at Cumberland, Md., transferring to New York the following year. He was appointed assistant general freight agent at New York in 1925 and became general New England agent at Boston, Mass., in 1928. In 1937 he was appointed assistant freight traffic manager at New York, being promoted to freight traffic manager at New York in 1944, which position he held until his retirement.

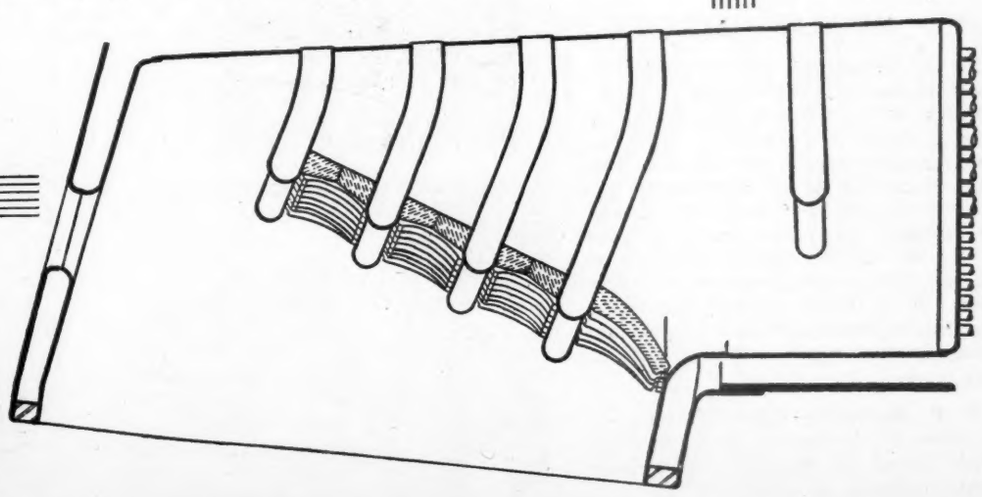
Paul S. Phenix

News Department continued on next left-hand page.

Faster Evaporation

Located right in the path of the hot gases, Security Circulators are very effective elements for speeding evaporation. There is a continuous circulation of water from the side water-legs, through the circulators, over the top of the crown sheet.

At the same time the Security Circulators provide the most satisfactory type of support for a 100% brick arch.



Typical Installation in Coal-Fired Locomotive

AMERICAN ARCH COMPANY, INC.

NEW YORK • CHICAGO

SECURITY CIRCULATOR DIVISION

SPECIAL

W. R. Allen has been appointed safety supervisor of the St. Louis-San Francisco, with headquarters at Slaton, Tex.

A. Ernest Larsen, former Federal Bureau of nvestigation agent, has been appointed assistant manager, prevention and security department of the Railway Express Agency, New York.

Chester D. Palmer, Jr., advertising assistant of the Norfolk & Western, has been appointed assistant advertising manager, with headquarters at Roanoke, Va., succeeding **R. N. Dickinson,** whose death on November 14 was reported in *Railway Age* of November 22.

ENGINEERING & SIGNALING

H. D. Walker, special engineer of the Illinois Central, with headquarters at Chicago, has been promoted to principal assistant engineer there, succeeding **Maro Johnson,** who has retired after more than 49 years of service with the railroad. **E. R. Word,** supervisor of track at East St. Louis, Ill., has been advanced to assistant engineer at Chicago. **C. J. Wallace** has been appointed engineer of design.

Edgar Bennett, chief engineer maintenance of way and structures of the Central lines of the Southern at Knoxville, Tenn., has been transferred to the Eastern lines at Charlotte, N. C., succeeding **Theodore M. von Sprecken,** who has been appointed assistant to the chief engineer (system) at Washington, D. C. **Robert F. Logan,** superintendent at Atlanta, Ga., has been appointed chief engineer maintenance of way and structures at Knoxville, to succeed Mr. Bennett.

MECHANICAL

F. O. Fernstrom, who has been relieved, at his own request, as shop superintendent of the Chicago, Milwaukee, St. Paul & Pacific at Milwaukee, Wis., has been appointed master mechanic at that point, succeeding **A. M. Martinson,** who has retired after 50 years of service with the railroad. Mr. Fernstrom is succeeded by **F. W. Bunce,** master mechanic at Chicago, who in turn is replaced by **Barry Glen. E. L. Grote,** assistant shop superintendent at Milwaukee, has been appointed acting division master mechanic at Mason City, Iowa.

R. F. Batchman, general foreman enginehouse at Englewood, Ill., of the New York Central, has been appointed assistant master mechanic at DeWitt, N. Y.

G. S. Robertson, general foreman of the Fort Worth & Denver City and the Wichita Valley (both parts of the Burlington Lines), at Childress, Tex., has been promoted to superintendent of motive power there, succeeding **J. L. Roach,** who has retired.

W. H. McAmis, acting superintendent of motive power of the Chicago & North Western, at Chicago, has been appointed superintendent of motive power at that point, with jurisdiction over locomotive and car matters in the road's Western district.

PURCHASES AND STORES

J. P. Blum, purchasing agent of the Chicago, Burlington & Quincy at Chicago, has been promoted to general purchasing agent of the Burlington Lines. **J. F. McAlpine,** assistant purchasing agent, and **H. V. Schiltz,** buyer in the purchasing department, have been appointed assistant general purchasing agents.

D. S. Wooldridge, secretary of the office equipment committee of the Chesapeake & Ohio, has been given the additional duties of stationer in the purchasing department.

OBITUARY

Clifford Thorburn, purchasing agent of the Southern Pacific and general purchasing agent of the Pacific Electric at Los Angeles, Cal., died on November 17 at St. Vincent's hospital in Los Angeles, following a short illness. Mr. Thorburn, 63, entered the employ of the S. P. as a car cleaner in his home town of Ogden, Utah, in 1902. He was transferred subsequently to the stores department, and went to Los Angeles as an accountant in 1907. He joined the P. E. in 1909 and became general purchasing agent in 1920. In 1939, Mr. Thorburn was appointed also assistant purchasing agent of the Los Angeles division of the S. P., and had held the position of purchasing agent since 1942.

Felix R. Gerard, who retired in May as president of the Lehigh Valley at New York, died on November 28 at his home in Roselle Park, N. J., at the age of 60. Mr. Gerard was born at Blairsville, Pa., on August 30, 1887, and entered railroad service on May 9, 1903, as a clerk with the Pennsylvania. He served as trainman, assistant trainmaster and passenger trainmaster, successively, of the Pennsylvania from June 1, 1906, to January 1, 1928, becoming superintendent of the Long Island on the latter date. On October 15, 1931 Mr. Gerard was appointed superintendent of the Philadelphia division of the Pennsylvania, becoming general superintendent of

Felix R. Gerard

the Northwestern division at Chicago on January 1, 1936. Mr. Gerard went with the Lehigh Valley on January 16, 1942, as general manager at Bethlehem, Pa., becoming vice-president and general manager three months later. From April to June, 1944, he was vice-president, operation and maintenance of the Lehigh Valley at Bethlehem and on July 1, 1944, he became president of the road, with headquarters at New York, which position he held until his retirement.

Arthur P. Button, assistant to chief engineer of the New York Central, with headquarters at Chicago, died suddenly of a heart attack at his home in that city on November 29. He was 59 years old.

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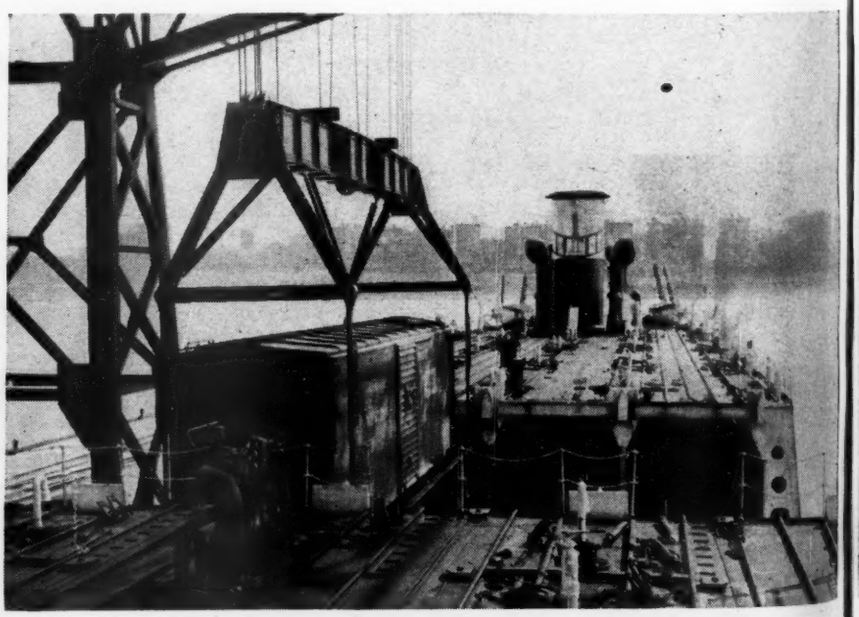

Crane lowering a box car into the hold of a Seatrain ship at the Susquehanna's Edgewater (N. J.) terminal

Table of Operating Revenues and Expenses appears on the next left-hand page.

DRY STEAM

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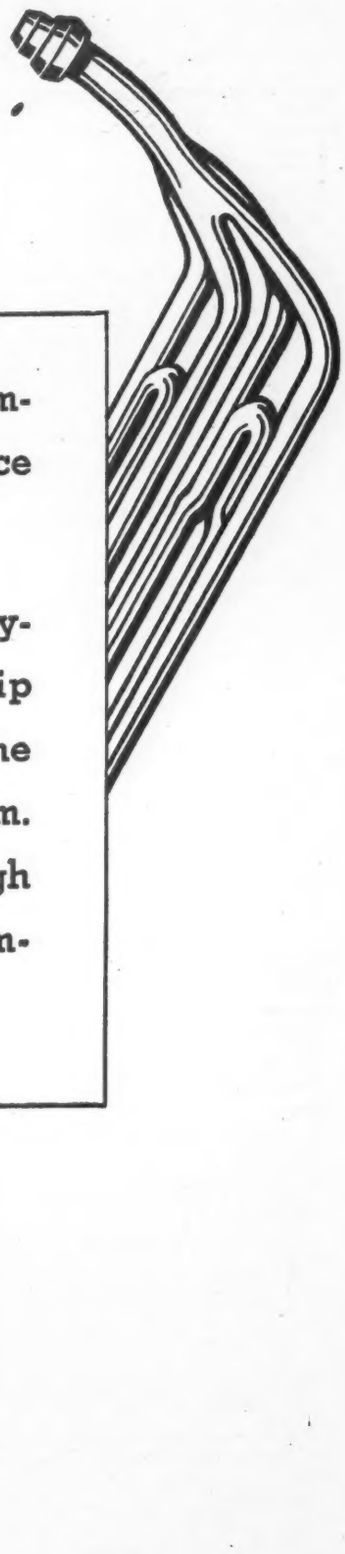

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Operating Revenues and Operating Expenses of Class I Steam Railways

Compiled from 126 monthly reports of revenues and expenses representing 130 Class I steam railways

(Switching and Terminal Companies Not Included)

FOR THE MONTH OF SEPTEMBER 1947 AND 1946

Item	United States		Eastern District		Southern District		Western District	
	1947	1946	1947	1946	1947	1946	1947	1946
Miles of road operated at close of month	227,057	227,402	53,728	53,778	46,155	46,264	127,174	127,360
Revenues:								
Freight	$593,089,123	$515,630,919	$218,219,635	$197,314,555	$117,730,146	$104,082,147	$257,139,342	$214,234,217
Passenger	80,368,592	95,362,468	40,971,988	45,421,414	12,213,514	15,372,298	27,183,090	34,568,756
Mail	11,430,979	10,285,626	4,323,968	3,570,114	1,987,917	1,874,891	5,119,094	4,840,621
Express	7,413,066	6,846,393	1,745,090	296,488	1,144,438	995,700	4,523,538	5,554,205
All other operating revenues	34,248,082	32,287,088	14,724,247	14,432,865	5,516,329	4,452,650	14,007,506	13,401,573
Railway operating revenues	726,549,842	660,412,494	279,984,928	261,035,436	138,592,344	126,777,686	307,972,570	272,599,372
Expenses:								
Maintenance of way and structures	111,468,469	96,741,588	42,470,619	37,580,706	23,195,890	19,783,990	45,801,960	39,376,892
Depreciation	10,173,741	10,056,898	4,331,374	4,309,316	1,752,508	1,709,826	4,089,859	4,037,756
Retirements	2,680,211	1,327,391	390,807	659,071	341,128	108,029	1,948,276	560,291
Deferred maintenance	*670,433	*499,337	*13,255	*188,049	*19,044	*8,319	*638,134	*302,969
Amortization of defense projects	112,954	62,905	8,371	6,704	35,006	18,491	69,577	37,710
Equalization	*2,761,483	*2,099,078	*1,449,180	*895,285	33,168	*506,504	*1,345,471	*697,289
All other	101,933,479	87,892,809	39,202,502	33,688,949	21,053,124	18,462,467	41,677,853	35,741,393
Maintenance of equipment	134,911,331	121,043,964	57,852,531	52,453,069	26,725,809	23,237,961	50,332,991	45,352,934
Depreciation	19,312,073	18,384,441	7,606,729	7,436,733	4,332,974	3,981,519	7,372,370	6,966,189
Retirements	*85,154	*30,759	*9,062	*1,279	*8,623	*10,355	*67,469	*19,123
Deferred maintenance and major repairs	*294,657	*262,895	42,000	*1,615	*58,941	*80,552	*277,716	*180,728
Amortization of defense projects	1,223,612	1,076,675	453,833	456,895	238,280	178,059	531,499	441,721
Equalization	173,773	*372,250	18,219	*46,082	31,374	*279,644	124,180	*46,524
All other	114,581,684	102,248,752	49,740,812	44,608,417	22,190,745	19,448,934	42,650,127	38,191,401
Traffic	15,045,400	13,536,196	5,100,735	4,819,952	3,322,981	2,792,230	6,621,684	5,924,014
Transportation—Rail line	294,585,021	268,907,409	125,447,155	114,692,636	53,296,919	48,315,092	115,840,947	105,899,681
Miscellaneous operations	11,500,018	11,228,831	4,272,118	3,993,730	1,554,649	1,449,655	5,673,251	5,785,446
General	21,081,002	18,333,712	8,119,841	7,021,387	4,556,985	3,960,431	8,404,176	7,351,894
Railway operating expenses	588,591,241	529,791,700	243,262,999	220,561,480	112,653,233	99,539,359	232,675,009	209,690,861
Net revenue from railway operations	137,958,601	130,620,794	36,721,929	40,473,956	25,939,111	27,238,327	75,297,561	62,908,511
Railway tax accruals	75,939,347	49,394,870	23,749,221	15,494,084	16,253,906	13,673,778	35,936,220	20,227,008
Pay-roll taxes	31,127,267	21,216,441	12,976,677	8,925,088	5,996,511	4,013,872	12,153,879	8,277,481
Federal income taxes	20,381,450	5,798,422	1,752,101	*1,986,017	5,273,960	5,152,051	13,355,389	2,632,388
All other taxes	24,430,630	22,380,007	9,020,243	8,555,013	4,983,435	4,507,855	10,426,952	9,317,139
Railway operating income	62,019,254	81,225,924	12,972,708	24,979,872	9,685,205	13,564,549	39,361,341	42,681,503
Equipment rents—Dr. balance	10,716,424	10,678,505	4,521,286	4,843,546	*1,800,643	*1,195,149	7,995,781	7,030,108
Joint facility rent—Dr. balance	3,323,384	3,037,189	1,604,838	1,472,305	478,479	492,078	1,240,067	1,072,806
Net railway operating income	47,979,446	67,510,230	6,846,584	18,664,021	11,007,369	14,267,620	30,125,493	34,578,589
Ratio of expenses to revenues (per cent)	81.0	80.2	86.9	84.5	81.3	78.5	75.6	76.9

FOR THE NINE MONTHS ENDED WITH SEPTEMBER 1947 AND 1946

Item	United States		Eastern District		Southern District		Western District	
	1947	1946	1947	1946	1947	1946	1947	1946
Miles of road operated at close of month	227,197	227,412	53,731	53,802	46,189	46,273	127,277	127,337
Revenues:								
Freight	$5,123,276,063	$4,202,229,581	$1,946,692,698	$1,577,441,827	$1,069,705,727	$887,652,730	$2,106,877,638	$1,737,135,024
Passenger	725,190,335	991,596,636	362,967,855	447,677,227	118,168,240	168,765,412	244,054,238	375,153,997
Mail	99,879,939	92,889,166	36,293,901	32,590,687	18,191,351	17,032,123	45,394,687	43,266,356
Express	84,563,635	64,862,132	24,994,994	4,016,687	15,118,199	10,465,516	44,450,442	50,379,929
All other operating revenues	294,867,403	269,641,700	129,805,889	122,672,962	49,843,229	38,942,053	115,218,285	108,026,685
Railway operating revenues	6,327,777,373	†5,621,219,215	2,500,755,337	2,184,399,390	1,271,026,746	1,122,857,834	2,555,995,290	2,313,961,991
Expenses:								
Maintenance of way and structures	893,333,697	865,637,150	326,672,968	311,001,899	194,496,500	185,743,657	372,164,229	368,891,594
Depreciation	91,190,357	90,175,146	38,980,072	38,667,371	15,641,279	15,305,522	36,569,006	36,202,253
Retirements	9,184,156	7,155,758	2,008,691	1,841,880	1,943,146	922,051	5,232,319	4,391,827
Deferred maintenance	*4,191,726	*4,333,525	*211,493	*993,630	*209,716	60,249	*3,770,517	*3,400,144
Amortization of defense projects	966,914	254,742	82,885	53,662	280,978	103,888	603,051	97,192
Equalization	*994,537	9,477,176	*1,881,106	4,095,168	871,127	2,959,652	15,442	2,422,356
All other	797,178,533	762,907,853	287,693,919	267,337,448	175,969,686	166,392,295	333,514,928	329,178,110
Maintenance of equipment	1,145,294,961	1,092,184,344	490,073,104	457,892,947	231,704,568	211,366,209	423,517,289	422,925,188
Depreciation	172,582,104	165,701,044	69,300,353	67,948,603	38,002,166	35,527,891	65,279,585	62,224,550
Retirements	*382,922	*298,123	*59,704	*94,687	*99,019	*92,382	*224,199	*111,054
Deferred maintenance and major repairs	*3,433,799	*2,655,773	129,180	*191,133	*1,312,534	*326,176	*2,250,445	*2,138,464
Amortization of defense projects	11,190,323	6,730,634	4,161,627	2,850,636	2,240,744	1,082,441	4,787,952	2,797,557
Equalization	791,345	657,146	3,835	*35,433	561,599	668,679	225,911	23,900
All other	964,547,910	922,049,416	416,537,813	387,414,961	192,311,612	174,505,756	355,698,485	360,128,699
Traffic	129,399,703	123,023,897	44,635,943	44,095,647	27,721,338	24,750,409	57,042,422	54,177,841
Transportation—Rail line	2,515,666,190	2,361,977,688	1,090,598,487	1,013,744,750	467,305,251	435,665,660	957,762,452	912,567,278
Miscellaneous operations	95,669,240	96,152,645	35,571,857	36,283,304	14,017,428	13,725,855	46,079,955	46,143,486
General	179,229,872	173,569,237	69,208,171	67,261,663	38,985,714	36,969,971	71,035,987	69,337,603
Railway operating expenses	4,958,593,663	4,712,544,961	2,056,760,530	1,930,280,210	974,230,799	908,221,761	1,927,602,334	1,874,042,990
Net revenue from railway operations	1,369,183,710	908,674,254	443,994,807	254,119,180	296,795,947	214,636,073	628,392,956	439,919,001
Railway tax accruals	686,995,599	428,970,410	230,925,704	137,630,244	157,797,494	113,264,038	298,272,401	178,076,128
Pay-roll taxes	259,828,566	189,921,349	108,690,565	78,223,067	50,679,782	36,437,618	100,458,219	75,260,664
Federal income taxes	216,542,186	43,984,891	41,613,675	*17,280,044	63,793,564	35,969,338	111,134,947	25,295,597
All other taxes	210,624,847	195,064,170	80,621,464	76,687,221	43,324,148	40,857,082	86,679,235	77,519,867
Railway operating income	682,188,111	479,703,844	213,069,103	116,488,936	138,998,453	101,372,035	330,120,555	261,842,873
Equipment rents—Dr. balance	93,742,213	83,898,228	42,682,000	36,625,527	*5,587,944	*2,026,499	56,648,157	49,299,200
Joint facility rent—Dr. balance	30,701,045	28,986,417	14,942,337	14,379,632	4,721,779	4,292,053	11,036,929	10,314,732
Net railway operating income	557,744,853	366,819,199	155,444,766	65,483,777	139,864,618	99,106,481	262,435,469	202,228,941
Ratio of expenses to revenues (per cent)	78.4	83.8	82.2	88.4	76.6	80.9	75.4	81.0

* Decrease, deficit, or other reverse item.

† Railway operating revenues are after deduction of $2,499,007 for the nine months ended with September 1946, to create a reserve for land grant deductions in dispute.

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.